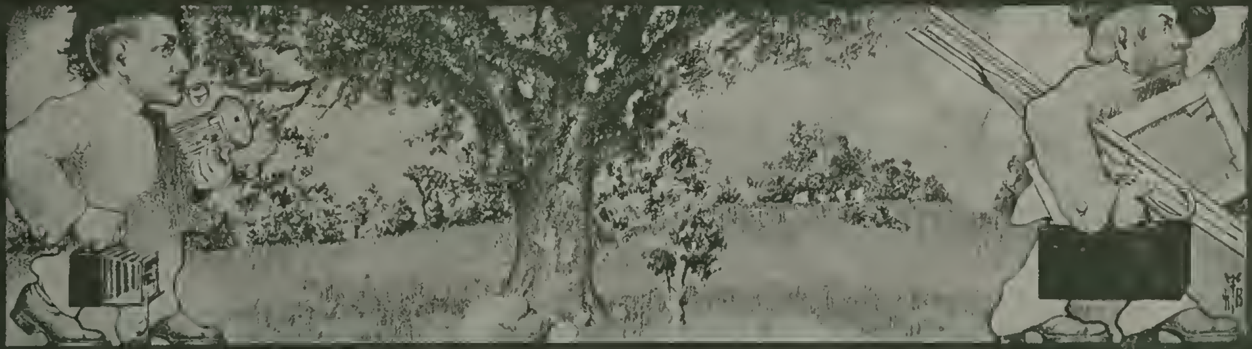
nxp
1H
57
57
38
.8

VOL. XXXVIII
One Dollar per Annum

AUGUST, 1906

No. 8
Single Copies, 10 Cents

# The Photographic Times



An Independent Illustrated Monthly Magazine Devoted to The Interests of Pictorial and Scientific Photography.

THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION.
39 UNION SQUARE. NEW YORK CITY

# Monthly Photographic Competitions for 1906

Prizes will be awarded as follows: First prize, **$10.00**; second prize, $5.00; and three honorable mention awards of a year's subscription to "The Photographic Times."

## CONDITIONS

Prints in any medium, mounted or unmounted, may be entered. As awards are, however, partly determined on possibilities of reproducing nicely, it is best to mount prints and use P. O. P., or developing paper with a glossy surface. Put name and address on *back* of each print, and prepay postage at the rate of one cent for each two ounces.

Send particulars of conditions under which picture was taken separately by mail. Data required in this connection: light, length of exposure, hour of day, season, and stop used. Also materials employed as plate, lens, developer, mount and method of printing.

*No print will be eligible that has ever appeared in any other American publication.*

Prints will be returned if requested at the time of sending and postage prepaid for their return. All other prints become the property of this publication, to be used in "The Photographic Times," as required; credit will of course be given if so used.

Prints must reach us thirty days before the issue for which they are intended. Entries for October close August 31st. Prints received too late for one competition will be included with entries for the following month. Entries for November close September 30th.

We will reserve the right to reject all prints not up to the usual standard required for reproduction in our magazine.

Checks for prizes will be mailed the 25th of the month in which the print appears.

Address: **COMPETITION PRINT EDITOR**

**THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION**

**39 Union Square, New York City**

# THE PHOTOGRAPHIC TIMES

Volume XXXVIII. AUGUST, 1906. Number 8.

## CONTENTS

**Something New,** Cover Illustration . . . . . . By Anna W. Smith
**An Adirondack Woodland,** Frontispiece . . . By Rudolph Eickemeyer
**Character Posing and Lighting—The Genre Picture** . By Felix Raymer 339
**"See Mamma,"** Illustration . . . . . . By Oscar Maurer 342
**Cloud Photographs** . . . . . . . By Charles S. Taylor 343
**A Rainy Day,** Illustration . . . . . . . By R. J. Hillier 345
**Winter's Sunset,** Illustration . . . . . By George H. Scheer 346
**A Trio of Photographic Suggestions,** Illustrated . . By David R. Shearer 347
**Supplication,** Illustration . . . . . By Lawrence C. Randall 348
**To Test Anastigmatic Lenses** . . . . . By Charles R. King 349
**Departing Day,** Illustration . . . . . . . By W. H. Evans 351
**A Few Photographic Stunts** . . . . . By Alfred Englert 352
**Going to Sea,** Illustration . . . . . . By Edgar A. Cohen 353
**Enamelling** . . . . . . . . . By J. I. Pigg 354
**The Close of an Autumn Day** . . By R. S. Kaufman 355
**Figures in Landscape** . . . . . By Aubrey Harris 356
**An English Girl,** Illustration . . . . . . By Mrs. G. A. Barton 358
**Local Intensification of Negatives** . . . . . . . . 359
**The Crest of the Hill,** Illustration . . . . By J. R. Peterson 360
**The July and August Competition,** Illustrated . . . . . 361
**Spring,** Illustration . . . . . . . By William H. Zerbe 361
**The Sister,** Illustration . . . . . By Gerald Edgar Jones 362
**Adagio,** Illustration . . . . . . . . By E. O. Hoppe 363
**Autumn Twilight,** Illustration . . . . . By John W. Schuler 364
**A Photographic Liver** . . . . . . . By Milton B. Punnett 365
**The Favorite Chick,** Illustration . . . . . By Alfred J. Meyer 366
**The Model,** Illustration . . . . . . . By R. L. Curran 367
**Editorial Notes,** . . . . . . . . . . 368
**The Spirit of the Wind,** Illustration . . . . . . By Jandrier 369
**A Chapter on Solutions** . . . . . . By A. W. Bromley 370
**The Use of Alkalies in Organic Developers** . Translated by Henry F. Raess 372
**Notes, News and Extracts** . . . . . . . . 379
**Trade Notes** . . . . . . . . . . 383

**THE PHOTOGRAPHIC TIMES** is an Independent Illustrated Monthly Magazine, devoted to the interests of Pictorial and Scientific Photography. It is published on the first of each month.

**PRICE**—The subscription price is one dollar a year payable in advance. Ten cents a copy.

**POSTAGE IS PREPAID** by the publishers for all subscriptions in the United States, Hawaiian Islands, Philippine Islands, Guam, Porto Rico, Tutuila Samoa, Shanghai, Canal Zone, Cuba, Canada, and Mexico. For all other countries in the Postal Union add 50 cents for postage.

**CHANGE OF ADDRESS.**—When a change of address is ordered, both the new and the old address must be given. The notice should be sent one week before the change is to take effect.

**DISCONTINUANCES.**—If a subscriber wishes his copy of the paper continued at the expiration of his subscription, notice to that effect should be sent. Otherwise it is assumed that a discontinuance of the subscription is desired.

**HOW TO REMIT.**—Remittances should be sent by Draft on New York, Express-Order, or Money-Order, payable to order of The Photographic Times Publishing Association. Cash should be sent in Registered Letter

**LETTERS** should be addressed:

**THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION**
**39 Union Square, NEW YORK**

Copyright, 1906, by
The Photographic Times Publishing Association.

Entered as second-class matter January 17, 1905, at the Post Office at New York, N. Y., under the Act of Congress of March 3, 1879.

*When in doubt as to the lens to buy,* write to the

# C. P. GOERZ OPTICAL WORKS New York

*"They Have a Lens for Every Purpose"*

The CELOR, for Portraits and Groups.
The DAGOR, a general lens.
The ALETHAR, for Process Work and Color Photography.
The SYNTOR, for Kodaks and small cameras.
The PANTAR, a convertible anastigmat.
The HYPERGON, an extreme wide angle (135 degrees).

But as an ALL-AROUND Lens for GENERAL WORK nothing equals the GOERZ DAGOR f6.8—a symmetrical double Anastigmat, which is proclaimed without a peer by all expert photographers, professionals or amateurs.

It is THE Standard Anastigmat by which the value of all other lenses is measured. We court inspection.

We want you to realize what these lenses actually are, to investigate and ascertain their numerous advantages. We give you a ten days' trial free of charge. Don't be bashful about it. Just send us the name and address of your dealer or write for our Lens catalogue.

## C. P. GOERZ OPTICAL WORKS

52 A Union Square, NEW YORK, and Heyworth Building, Chicago.
BERLIN PARIS LONDON ST. PETERSBURG

---

# PLATE EFFICIENCY

WITH FILM CONVENIENCE.

That's what the ENVELO Unit System does for you

One plate holder does the work of a dozen or more

No bulky burdens to carry. Daylight loading

A revolution in the use of Plate Cameras

Simple, durable and inexpensive

WRITE TO-DAY FOR FOLDER

**ENVELO** TRADE MARK

"ENVELO" Developer is another winner
No dark room necessary

## LYON CAMERA SPECIALTY CO.

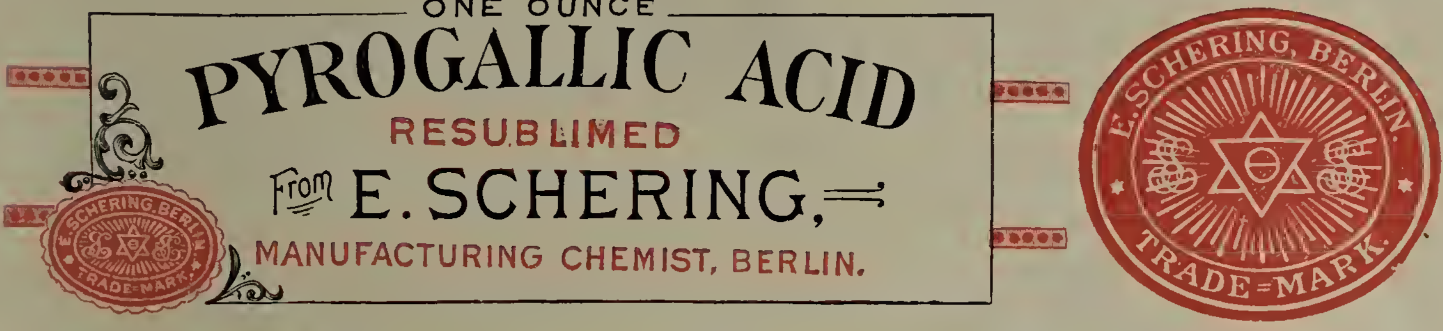
101 SIXTH STREET, PITTSBURGH, PA.

**When purchasing a Developer please be particular to specify**

**SCHERING'S**

**THE OLDEST AND MOST FAVORABLY KNOWN BRAND.**

*Put up with labels and seals as per fac-similes here given.*



ONE OUNCE
PYROGALLIC ACID
RESUBLIMED
From E. SCHERING,
MANUFACTURING CHEMIST, BERLIN.

E. SCHERING, BERLIN.
TRADE-MARK
REGISTERED

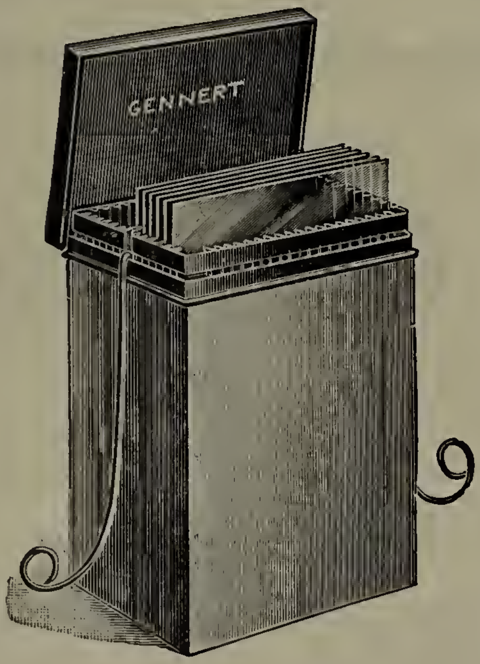
**THE STANDARD OF THE LAST—FOURTH—EDITION OF THE GERMAN PHARMACOPOEIA.**

**See that you get the Genuine "SCHERING'S."**

**EXCELLED BY NONE.**

**SEND ORDERS TO YOUR DEALERS.**

---



IT DOES NOT MAKE YOU HOT
*When Developing With*

## Gennert's 'Auto-Tank' *and* 'Auto-Developer'

8 TO 29 PLATES CAN BE DEVELOPED AT ONE TIME

***Without Attention***

Size 1, $2.00 — Size 2, $2.50 — Size 4, $3.00

*DESCRIPTIVE CIRCULAR FROM ALL DEALERS, OR*

**G. Gennert,** 24-26 East 13th Street, New York
:: :: 53-55 Lake Street, Chicago

*SEND FOR OUR NEW CATALOGUE*

PICTURES MOUNTED
WITH
**HIGGINS' PHOTO MOUNTER**

HAVE an excellence peculiarly their own. The best results are only produced by the best methods and means—the best results in Photograph, Poster, and other mounting can only be attained by using the best mounting paste—

HIGGINS' PHOTO MOUNTER
(Excellent novel brush with each jar.)
At Dealers in Photo Supplies, Artists' Materials and Stationery.
A 3 oz. jar prepaid by mail for thirty cents, or circulars free, from
CHAS. M. HIGGINS & CO.
Manufacturers
NEW YORK CHICAGO LONDON

Main Office, 271 Ninth St., Brooklyn, N. Y.
Factory, 240-244 Eighth St., U. S. A.

TRADE MARK.

J. F. ADAMS
Successor to BUTTS & ADAMS
**Photographic Supplies**
457 & 459 WASHINGTON ST.
BUFFALO, N. Y.

EXTRA! EXTRA!! EXTRA!!!
New Bargain List No. 14 now ready.
Do not purchase until you have seen this list. It will save dollars for you.
N.Y. Camera Exchange, 114 Fulton St.

**$2.75** Will buy an 8-inch
ACME BURNISHER
Full Nickel Finish
SEND FOR DESCRIPTION
ACME BURNISHER CO., Fulton, N. Y.

There is Nothing Too Quick for a

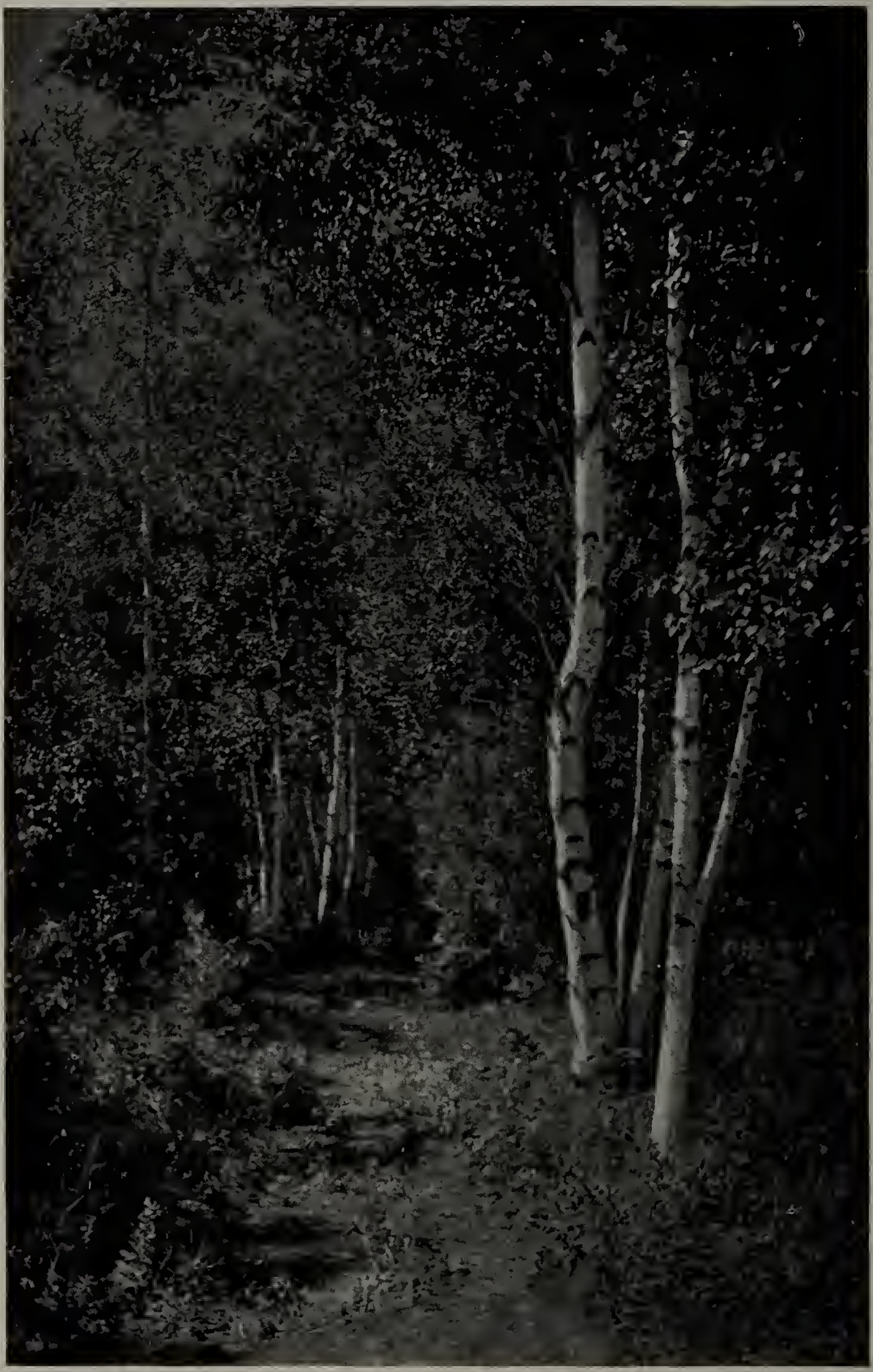
**Graflex Camera**

It is the Ideal Outfit for High-Speed Work

YOU SEE THE PICTURE FULL SIZE AT THE INSTANT OF EXPOSURE

and right side up — not inverted. The Shutter is of the focal plane type, working directly in front of the sensitive plate or film. Range of speed varies from *one-thousandth* of a second to time exposures of any duration. No little finder or focusing scale necessary. All guess-work eliminated. New 1906 Catalogue mailed free.

**Folmer & Schwing Co.**
Rochester, N. Y.



*AN ADIRONDACK WOODLAND* *By Rudolph Eickemeyer*

THE
PHOTOGRAPHIC TIMES

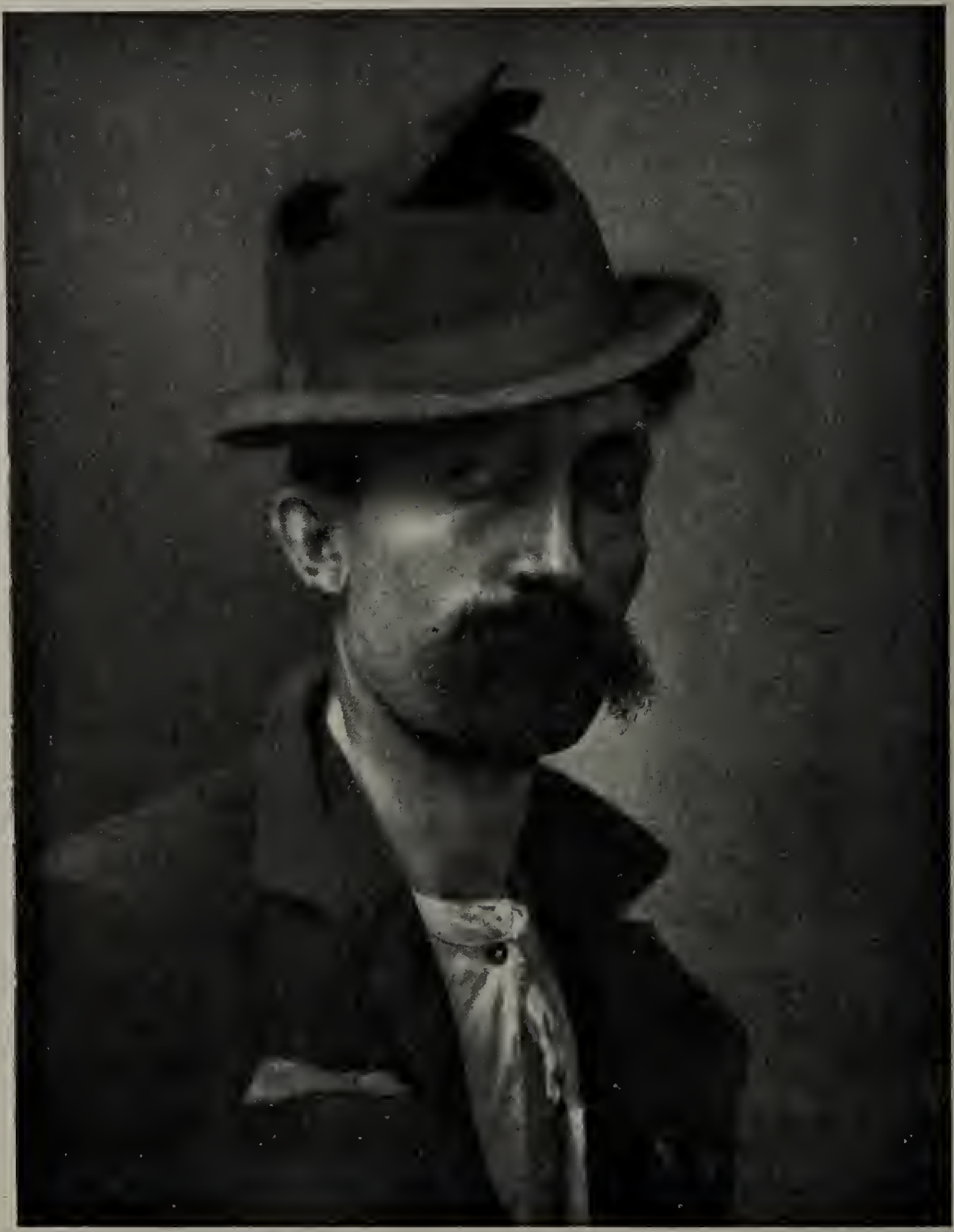
VOL. XXXVIII. AUGUST, 1906 No. 8.

# CHARACTER POSING AND LIGHTING—THE GENRE PICTURE

BY FELIX RAYMER

PERHAPS the greatest cause for failure with many operators to express character in their work is that they do not fully understand the nature of the picture they expect to make. We often find a portrait that is but little better than a *caricature* of the subject. Many photographers apparently have the idea that in order to make a portrait expressing character it is necessary to show the subject as a thug, or lower type of a human being. In lighting work after this manner, all the bad features of the subject's face are brought out, while the counteracting good features fail to show, thus giving a false impression of the nature of the man. While I believe in lighting every face so that it will show the character of that particular face, I do not think it necessary as some seem to think, to make the face look as old and haggard as possible. It is not necessary to show everything there is in the face to get the character. For example, the subject may have a wart on one side of the face, but to show character it is not necessary that the side of the face having the wart be the one that is turned to the camera. The wart means nothing in relation to the subjects character and is not necessary to the success of the picture as a portrait. The other side of the face could be turned to the camera as easily and the disagreeable wart hidden by the turn of the cheek. If the lines of the face show a pleasant expression, or the reverse they denote character and are necessary to the success of the character study.

It seems to me that the average operator when he undertakes to make a portrait of his subject, and show the character, has an idea that he must do so, after the manner of the operator who is making Genre pictures, or pictures that tell a story. The portrait operator tries to make each of his character studies tell some story, and the result is that the public does not like the pictures. If we are to make a portrait there are certain rules to guide us in doing so, and if we are to make a Genre picture there are certain other rules to govern the making of them. The Genre picture means one thing and the portrait picture means another. To make a character picture in portrait work does not mean the same thing as making a character picture in Genre work. The portrait picture is to be a likeness of the subject, one that will show that man as he is seen every day of his life, and the nearer the operator can come to getting it that way the better pleased the friends of that man will be. This does not mean that we should make a picture of a man in his worst moods. It means that we should make his picture while he is in his best mood. The idea should



*THE MAN OF MYSTERY* *By Felix Raymer*

not be to make a portrait showing the effects of a certain mood, as we do in making the Genre picture; but that we should see the expression in the face coming from that mood. If the expression is sour we may feel sure that the subject is in one of his bad moods, and his friends will not like the picture. But if the expression is good and he has a friendly appearance to the eye, we may be sure his mood is good and that his friends will like the picture because he has this friendly appearance.

In making the portrait of a man, it is the man that we are after, and not the mood. We want to show that man to the very best advantage, for the picture is to be a likeness, and his friends want to see him as they meet him every day, with the smile of friendship on his face. But if we wanted to show the mood, as for example we may want to portray, "Anger" or "Laughter" we would not care a particle whether the picture was a likeness of the man or not. It may not be recognized and still be a perfect gem of art, for it has expressed what we wanted it to.

Therefore I say the operator often does not work with the degree of intelligence that should be exercised in making his portraits. And as often he blames the public for not liking character pictures or pictures that show the character of the face. It is his misunderstanding of the rules to be applied in the making of the portrait.

I use an illustration for better bringing out my ideas along this line. It will be readily seen that I depict a character with which we are all familiar. We have had just such a character come to our back doors many times asking for a "hand out" and what is more we have often given him what he asks for without a word of inquiry, and cared but little what brought him to this state. But we are familiar enough with the character to know that the representation is not overdrawn. Now in making this study, it was not my intention to make a likeness of the *man*, for I did not care a rap whether I ever saw him again or not as a *man*. But as a *character* I wanted something that every one would recognize, and know at a glance. If I had been working for a *likeness*, it would have been a picture that would not have interested one out of a hundred readers of the TIMES any more than hundreds of other pictures that are sent in for publication every year. The majority of the pictures that are received by magazines are of the class that interest no one. Those that do interest are those that express something, and pictures that are different from anything else we have seen. If I had made the likeness of the *man*, it would have been nothing more than a *portrait* like thousands of other portraits that I and many others have made. We are making the portraits for the public, and the public have to be pleased, so we do not try to please them by making a *caricature* of them.

The idea in this picture was to show the *character* of a tramp and not the *character* of a *man*. If I wanted to show the man, I would have had him dressed as we see men every day. But wanting him to show off the character of a tramp, I had to have him dressed as a tramp. In other words it was the character of tramp that I wanted and not the best side of the man.

Now here is where the operator will have to be shrewd enough to separate the "idea" from the "likeness." If he wants to illustrate an *idea* it makes no difference whether the picture is a likeness or not. But if he wants to illustrate a *likeness* or *portrait* he must choose the better faculties of that face and show the face to the very best advantage possible.

In making Genre pictures the operator must not only have a full comprehension of his subject's ability to express the thoughts or idea he wants to bring out but he must have a full understanding of the nature of the subject. If he wants to show the tramp, he must know what a tramp is. If he is going to illustrate an angel, he must know what an angel is before he can do so successfully. I do not know what an angel is myself and have therefore not tried to illustrate him or her whatever the gender. But I do know what a tramp is. So if the operator wants to become a Genre worker, he must educate himself along these lines, for any one that can make a good Genre picture or one that tells a story can make a good portrait, but any one that can make a good portrait can not always make a good Genre picture. As a rule the two do not run together in the same operator. One or the other predominates. If he is a Genre worker he seldom pleases his customers in his portrait work, and it is accounted for by his confusing his desires. He wants to express character, but in trying to do so, he makes the mistake of expressing the character of the thought or story he may have in his mind, and in doing so, often loses the likeness of the subject.

As a portrait or likeness the illustration I use this month would be absolutely useless, for there is no friend of the man, that would want one of them hung on his walls. But as a "thought" it may have some merit. As an actual fact, the man himself is a very fine fellow, and not a tramp at all, and I feel safe in predicting never will be, for he is a hard worker, and makes a living for three hundred and sixty-five days in the year. But if the nature of the tramp is understood, this man will carry out the conception of the operator as well as another, for it is the character or idea that we want, and not the man.

*"SEE MAMMA!"* *By Oscar Maurer*

# CLOUD PHOTOGRAPHS

BY CHAS. S. TAYLOR

ALL photographers will agree that an out-door view representing the sky as a white and dreary blank, is as unnatural as it is uninteresting. The skyless landscape is a crudity tolerated only by snap-shotters and thoughtless workers. That the sky is an important element in pictorial photography nearly every amateur is aware and as this feature rightly belongs to composition, and ably treated as such in various books, I will in this short article confine my remarks wholly to the sky itself and the modes most useful in producing a satisfactory cloud negative.

For obtaining clouds in photographs two methods are available. The first is the printing-in method, and the second result is in securing both fore-ground and clouds upon the one plate. While both modes can be used with advantage, the printing-in method is perhaps the better one, though it is somewhat more difficult at the beginning. Yet the process of combination printing can be readily mastered by a few trials and with the exception of bromide and developing papers (which require more expert handling) no trouble will likely occur. The great uncertainty in obtaining a suitable cloud or tint upon the same plate with the landscape, is why the great majority of workers use the printing-in method. The result being seen in the many fine illustrations that embellish the pages of our photographic magazines.

In addition to the above may be mentioned the old method often adopted by trade photographers, namely: painting in clouds on the back of the negative with opaque. This is not of course cloud photography and should be condemned as a make-shift that breaks up the whiteness of the sky but deceives no one.

The best equipment for making these cloud views, consists of orthocromatic (color sensitive) plates and a light color screen. Without one or all of these it is of course possible to make cloud pictures, but the delicate gradations found in the sky can best be obtained by color sensitive plates with or without the screen.

The chief trouble in photographing clouds is the halation, and if possible backed or double coated plates should be employed. The cause of this halation or spreading of light beyond its proper boundary, is that the strong light in passing through the film, passes through the glass support, and upon striking the plane surface of the back of the plate, is reflected back into the film. Thus a double action of light is made, just where the light is too strong.

By observation we know that the sky is usually far brighter than the landscape. This tells us that were we to employ the same shutter speed as for the foreground, the clouds would be lost through over-exposure. For example—in summer on a bright day the landscape, say, requires 1-50 of a second with the 8 stop, our clouds would at least require 1-500 of a second with the same stop, or at a lesser proportional rate when using a smaller stop. Ordinarily one-tenth of the normal exposure is correct.

With ordinary plates good results may be had by giving a short exposure and slowly develop in a diluted developer. Over exposure may be corrected in the weak solution although in a normal developer, over-exposure is fatal.

Moonlight effects are often very suggestive if taken over the water where reflections enhance the pictorial effect. This result is made by photographing at the sun during the late afternoon hours. Use the smallest stop and give a short exposure.

For printing-in, the clouds must be selected for the point of view required to illustrate the landscape theme. Here unity of light and shade must be observed, for if the landscape be lighted from the right, the clouds must be likewise illuminated. Nothing can so mar an otherwise pleasing photograph, than inharmonious light and shade and great care should be exercised in this important respect. The clouds or sky must appear natural and inseparable from the picture and in selection of the sky to be printed in, too much thought cannot be used. Avoid great contrast in cloud negatives, aim rather at delicacy, keeping the negative as thin as possible—just a faint image. This can be obtained by using a much diluted developer and stopping its action as soon as the least contrast is obtained. This transparent negative can be adjusted with ease over the foreground print and the registering of the two can be easily done. A properly developed sky plate should be thin enough to print in platinotype in five minutes. One great fault with the amateur is in making too splendid skies, which are all right for cloud prints, but are too loud, too noisy, for combination printing. The sky is an important feature of the photograph and with the exception noted above, should never be printed out to their fullest values. Where the sky is the principal object of interest as in sunsets, etc., the reverse is in order. In landscapes it should be subordinated.

For combination printing, the first essential is that the foreground negative should print with a perfectly opaque sky. A mask for the foreground part is now made. First make a proof upon printing-out-paper and take another piece of opaque paper of the same size, place together and roughly cut out the sky line of this proof, following the general outline only. It is not necessary to follow exactly every tree or irregularity of the outline. The proof is to be used for vignetting and the paper will mask or protect the foreground. This mask is placed over the foreground print with its upper edge a quarter of an inch or so below the sky line, care must be used that the mask does not slip. A handy contrivance to secure perfect register of the two can be made by using small squares of bristol board with slits cut into them. These are used similar to paper clips. A printing frame several sizes larger than the largest negative is necessary, because it rarely happens that both negatives exactly fit each other. With the mask over the foreground, it will indicate its edge and by placing the vignetting mask over it the horizon of the cloud negative can be located. With this as a guide print from the cloud plate, moving the mask holder from a short distance above the sky line to a short distance below this line. This avoids the point of light along the horizon and lessens the liability of spoiling the foreground. When a number of prints are desired it is much easier to make a perfect print, copying this to make the correct negative.

When both the clouds and the foreground are upon one plate, it will usually be found that the two parts print to an unequal density. This may be remedied by masking the thinner parts in printing, but the best way is to reduce the dense parts, thereby correcting the cause. The best agent for this purpose and one that requires little skill in its use, is ammonium persulphate. This reducer is one of selection, that is, it acts upon the dense parts (high lights), leaving untouched the part we desire unaltered. A five-per cent. solution is correct. The reducing action is stopped by immersing the plate in a 10 per cent. solution of sodium sulphite, washing well afterwards. If desired local reduction can be accomplished by using ferricyanide potassium. The negative is first soaked in a 2 per cent. solution of hypo, then the sky is gone over with a tuft of cotton soaked in the ferricyanide (5 grs. to 2 oz. water.)

After a little experience has been gained with the different printing mediums, the amateur will realize what great advantages combination-printing has, and I am sure he will no longer tolerate in his collection, even snap shots, that represent the sky as a strip of white paper.

*A RAINY DAY* *By R. J. Hillier*

*WINTER'S SUNSET* *By George H. Scheer*

# A TRIO OF PHOTOGRAPHIC SUGGESTIONS

BY DAVID R. SHEARER.

## Negative and Print Washing

WE often hear beginners speak of the amount of time necessary to wash negatives and prints thoroughly. And indeed it does seem as if some shorter method could be devised, without using a chemical destroyer. Too often even experienced workers fail to thoroughly eliminate the hypo from their prints, and as a result the pictures either fade, or turn yellow easily.

The following is a method I have used with excellent results on both negatives and prints:

Take a small oil can nozzle and attach it to a long piece of rubber tubing as in Fig (1). Then fasten the other end of the tube to the hydrant as in Fig (2) or to the bottom of a small tank elevated some distance above the table on which the washing is done. After the plates or prints are rinsed, turn on the water and spray them with the fine needle-like stream. The plates can be held in the hand or in the rack, but the prints should be placed on a pane of glass and turned frequently.

I have found that from 8 to 12 minutes is generally sufficient to thoroughly cleanse away all traces of hypo. Care must be taken, however, that the stream is not too strong, as that would cause blisters.

If very many are to be washed, keep a tray of clean water to place the prints in between times. After this treatment soak them for a few minutes and dry. The whole time consumed is not over 25 minutes.

Fig. 1

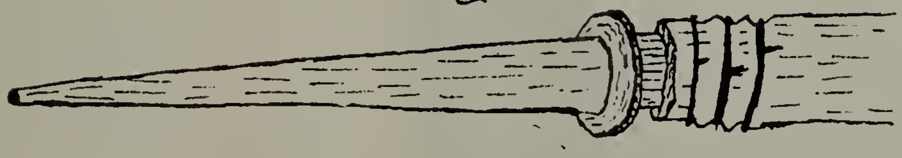
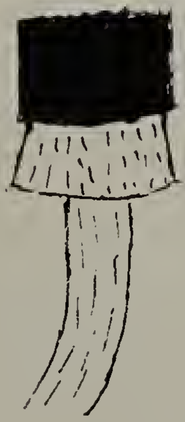


Fig. 2.



### Photographs by Lamplight

I have found that splendid negatives can be made by lamplight if two or more lamps are used in the right positions. By this means a much more delicate gradation of shadow may be secured, than by flashlight, or by daylight except in a studio.

I place two twenty candle-power oil lamps in front, and to each side of the sitter. About four feet is close enough for lamps this size, but of course distance, height, and arrangement depend on the lighting and effect desired. From two to four minutes will be required according to the plates and lens used.

For an amateur having no studio and no portrait lens, I think this the most successful way to make portraits.

### Spirit Photographs

Some very remarkable photographs may be made on the principal of double exposure. A ghost picture can be taken as follows: Drape a person in a sheet as near like a ghost as possible and photograph him against a plain background out of doors, giving only two-thirds the time necessary for a normal exposure. Then remove the person, without changing the camera, and expose the same plate at the background for the remaining third of the time. The background should have some rather prominent lines in it as this gives the ghost a more natural appearance. A fence, gate, tree, or landscape, will do.

If taken right the person will appear to be transparent, or almost so.

*SUPPLICATION* *By Lawrence C. Randall*

# TO TEST ANASTIGMATIC LENSES

BY CHARLES R. KING.

A SCIENTIFIC means of testing anastigmatic lenses is much needed for the guidance of purchasers and users, as also to be a means of enabling makers to stamp their lenses with a certified number which shall be a guarantee to buyers and users of the real value of the lens. At present no mechanical standard exists for determining the flatness of image of any anastigmatic lens, although this is the only quality-flatness which makes the "anastigmat" of more value than the old symmetrical lens. When a photographer wishes to select the very best instrument that gold can buy, he usually studies the literature on the subject. He will read treatises on optics and lens construction, from every part of the world, and devote several years of his life to absorbing such information, and he will read the claims of makers in all the advertisement pages of the worlds press, and when done, he will be as far as ever from knowing which lens give the best definition over a given circle with the largest opening. Many professional photographers when asked about anastigmatic lenses will advise "use a rectilinear intended for a plate of four times the area you wish to cover; the result is the same, and the cost lower." This may be possible and practical for studio and shop work, but it is not so for outside work. The Long focus is besides a great objection, for many subjects that are to be photographed.

In outside tourist work the best lens is an "anastigmat" that has a field as nearly as possible flat. A lens with an absolutely flat field has not yet been made to the writers knowledge, and he has examined and used the highest priced lenses procurable from the most reputed makers of Europe. They are generally a vast improvement on the deeply-curved field of the old rectilinear "doublets," but if anyone expects them to give a uniformly sharp image all over a flat plate as they are frequently claimed to do by the advertisements, a disillusionment is inevitable. They have but relatively flat fields. In nearly all, the curvature of field is like the "rectilinear" concave to the lens, but in at least one "anastigmat" (which may be traced out by attentive readers of this journal) it is convex, and to a considerable extent so, that is to say, a film would need to be curved *backwards* at its extremities, to render the image uniformly sharp over the length of the plate. The curvature in the first category is an advantage when side objects are situated nearer to the lens than central objects; and in the latter category, which is very exceptional, the central objects actually require to be nearest the lens to make it of any advantage. But where the object photographed is all on one plane, as machinery, large pieces of furniture, etc., drawings, maps or rows of houses at right angles to the axis of the lens, then the flattest field anastigmat obtainable should be chosen. It is precisely in the choice of a "flat-field" lens that the difficulty occurs; and this it is not wise to effect in the presence of the person desirous of selling a given lens, or several lenses, otherwise, on such occasions a question will arise as to what is, and what is not "sharp" definition; and it is above all advisable not to be distressed by coercive arguments at such moments.

The best plan, in default of any universal standard based upon the radius of sphericity in anastigmatic lenses, is to obtain one each of all the most reputed anastigmatic lenses in the market, and on the condition that the deposit for such will be refunded upon the return of all the lenses save the one chosen. All the lenses should be examined at once and in *quick succession,* and returned without delay when the choice is made. A very heavy camera of the studio type, or as used in engineering laboratories, is desirable in order to be sure that the axis of the lens is always alined at absolutely right angles with the surface of the focus screen. And, if it is not always convenient to find a truly plane object to focus upon the screen, such as rows of houses, or telegraph or telephone lines at right angles to the lens—it will suffice to select some fine sky-line object (wires, etc.) and then turn the camera around so as to bring the same object into the extreme corners of the plate. When the center is sharply focussed a needle-scratch should be made to mark the focus; the corners are then focussed sharply, and another scratch is made. It will be found that the scratches will have an interval between them, varying in the lenses tested from ¼ in. to 3-32 in. for a 7x5 lens of about 7 in. focus. The lens showing the least difference between the focus marks is the lens to be chosen. For instance, in the lenses of a world celebrated (and justly celebrated) maker it will be found that in his oldest lens (10 or 12 years introduced) the difference is only 3-32 in. with the maximum opening of F. 6, and in his newest lens of about F. 4.6, the difference is ¼ in. In this latter, if the center be sharply focussed, it is impossible to make the corners sharp by diaphragm, until the opening is reduced to F. 11 or even less. The older lens, although nominally much slower is therefore in reality much more rapid than the nominally faster lens for a given 7x5 plate; although on a plate of only 3 in. by 4 in. the image given by the most recent lens would be the brightest on this greatly reduced area. The middle is sharp; the margin diffused.

The value of a lens is not to be estimated from its price, for there are a great number of highly reputed lenses in which the sphericity of field raises them a little above the old rectilinear lenses. On the other hand, there is a certain well-known French maker whose moderate priced lenses prove to be marvelously good, and it is only by scrupulous measurements and an excellent normal vision that they can be detected as being inferior to the deservedly celebrated lenses of the best-known and popular German maker, though incomparably superior to the most costly lenses of another celebrated German maker. A simple test reveals all these facts to anyone endowed with good normal vision, but this experience necessarily costs time and money. To save uncertainty, annoyance, and expense, the writer proposes that lenses should be submitted to independent optical testing laboratories, there to be stamped with the radius of sphericity of the lens. Obviously the longer this radius the greater the value of the lens; given this radius, no one need to trouble about lens-construction or to read the conflicting claims of rival makers. In this way the best lens would instantly be known by its number, and for every half millimeter that the focus of the lens approached to a plane surface, the public would not grudge an additional $10 charge.

The instrument proposed by the writer for measuring the value of anastigmatic lenses, is purely mechanical. This would be a massive table of metal construction and placed so as to be exempt from temperature movement. At one end a heavy metal frame carrying a thick plate glass screen finely ground. On the table a long nickel slide with an upright for carrying the lenses to be tested. In articulated connection with this latter, a horizontal lever pivoted on the table near the slide. At the end of the lever (free end) a graduated index measuring the arc described by the lever. When the lens was sharply focussed in the middle of the plate, the pointer would be at Zero, and when the lens was sharply focussed at the corner of the plate, the longitudinal displacement of the lens, transmitted to the lever, would reveal the sphericity of the lens, giving in millimeters the length of the radius of that sphericity of field, and with somewhat more accuracy than the equivalent lens focus is at present expressed.

This turning of the camera distinctly favors a curved-field lens, and if this favor is not permissable, a deep row of telegraph wires should be focussed.

These measurements would be of the greatest value to buyers and users, also for those who only care for the results effected by lenses and not at all for the tiresome descriptions of lens construction, which they at present read in the hope of learning something to govern their choice. The makers of the very best lenses would welcome such a standard, for the immense advertisement it would be to them, although the celebrated makers of many very costly lenses, giving a spherical field might object to submitting their lenses to a mechanical test such as described; but if every buyer of expensive lenses throughout the world insisted upon their being stamped with a guaranteed "radius of sphericity," the effect would simply be to stimulate all makers alike, from A to Z, to make their instruments justify their claim of being "anastigmatic" which, so far only remains an arbitrary denomination, and escapes the control of any recognized system of mechanical measurement which alone is hard, fast and tangible, and free from the illusive arguments of the so-called optical measurements based on the diffusion of focus. The standard proposed would be universal—the grading of values would be in simple arithmetic. There would be order where now all is chaos.

*DEPARTING DAY* *By W. H. Evans*

# A FEW PHOTOGRAPHIC STUNTS

BY ALFRED ENGLERT.

WHAT amateur photographer has not felt the satisfaction of departing from the conventional rules of practice, especially when his efforts are crowned with success! In the following article a few experiences are related which may possibly suggest similar attempts and no doubt will recall similar experiences to the reader.

While on a camping trip two summers ago, the writer wished to develope a half dozen plates. Of course there was no dark room available. It was a beautiful, clear, starlit night in July, with no moon, and the pleasure of developing the plates out of doors immediately suggested itself. It would certainly be novel, and, as it happened, proved quite convenient and successful.

A table was improvised in the following manner: two camp chairs were placed back to back, a small distance apart, and over these a shallow box was laid, bottom side up, in such a manner that the back of the chairs projected up into it, giving stability to the whole. Upon the seats of the chairs, trays, developer, etc., could now be placed. An ordinary stable lamp, of which there were several about camp, was then placed upon the table with a piece of black paper beneath it. Two sheets of ruby fabric with a sheet of post office paper between them were now rolled into an open cylindrical hood, the edges pinned together, and the whole slipped over the lamp, leaving the top open to the sky. The black paper served to absorb any light rays which might escape under the hood. The plates were then developed under this light. After rinsing in a pail of well water they were placed in an ordinary tin washing box and dipped in the inlet which was close at hand, and happened to be at flood tide. A final rinsing at the well completed the operation. These negatives proved to be among the best of about a hundred taken at camp, and several of them were later given a full page in *Leslie's Weekly*.

On another occasion, one of those battery lamps so convenient in a camper's outfit was pressed into service to furnish light for refilling plate holders. This one was cylindrical in shape, twelve inches long by two inches in diameter. Two thicknesses of ruby fabric were folded over the nose of the lamp and held on by an elastic band. This was all that could be desired as a ruby lamp—no heat or odor, the light concentrated just where it was wanted, and it could be fitted up in an instant.

But one can get along very well without any lamp when filling plate holders, the operation being conducted in total darkness. It is only necessary to remember that plates are always packed film to film and there need be no danger of putting a plate wrong side out in the plate holder. There is no danger of confusing the exposed plates if one unloads the plates and places them in the exact order of exposure. Then the order of the plates in the box can be at once determined from a list of the exposures made. It will be found necessary to number the holders, 1, 2, 3, 4, etc., two numbers per holder, corresponding to the two plates, and to retain the holders in their numerical order in the carrying case.

One of the most interesting camp pictures the writer has taken was one entitled "Around the Camp Fire." It was taken after dark while the camping party were assembled about the camp fire under the clear sky telling stories and watching the lights of the "Ships that Pass in the Night." When the camp fire had died down, a quantity of flash powder was placed behind a log in a cooler portion of the embers and ignited at the proper time. As the final result showed, the flash in the dying embers gave the effect of a blazing fire and at the same time lit up the faces of the surrounding group as the bonfire itself might have done.

GOING TO SEA By Edgar A. Cohen

# ENAMELLING

BY J. L. PIGG, F. R. P. S.

IN spite of the aversion of some photographers to any "glossy" surface, workers are still to be found who appreciate the highly finished appearance of a well glazed P. O. P. or gaslight print.

There is an increasing demand for albums and mounts provided with the slip-in rebates, which obviate the necessity of pasting down the photographs. With these slip-in mounts, glazed prints are almost indispensable. If the photographs are allowed to dry in the ordinary way, numerous creases are apt to appear on the surface, which the time-honoured practice of "stroking-out" the print with a ruler only partially removes. In the ordinary method of mounting, creases disappear when the print is pasted on to the final support, but with slip-in mounts the uneven, cockled surface of the photograph is a perpetual eyesore.

There is one class of print very much in evidence just now which should be glazed.

This is the ubiquitous picture-postcard. Glazed photographic postcards remain flat when going through the post, and have a much brighter and neater appearance than the unglazed cards, while the hard smooth surface is less liable to be scratched or damaged in transit.

Many amateurs are under the impression that enamelling prints is difficult and troublesome, and that the photographs will refuse to leave the glass when dry. This no doubt deters many from attempting to finish their pictures in this way. The operations, if properly carried out, are very simple and there is practically no danger that the paper will adhere to the glazing support.

There are several methods of obtaining an enamelled surface on prints, but the most usual is to place them face downwards on glass or ferrotype plates. The objection to the ferrotype support is that, after being used several times, the varnished surface becomes scratched by the knife-blade used to lift up the corners of the print when the photographs are taken off the support. The water from the wet prints penetrates the places where the varnish has been scratched, causing the iron sheet to rust and inevitably producing ugly blemishes on the prints.

Glass is rather more trouble to clean than ferrotype plate and the prints, if carelessly manipulated, have a greater tendency to permanently attach themselves to the support. In winter there is less danger of torn prints than in summer. In hot weather the gelatine surface of the paper often becomes extremely soft and there is then some danger of spoiling the prints by enamelling them.

When prints are to be glazed they should always be immersed in an alum bath for a minute or two after fixing and thorough washing. The strength of the alum bath is not important. As alum dissolves readily, it is not necessary to keep a prepared solution, a small quantity can be placed in a dish and sufficient water be added to cover the prints. If the prints are rocked in the alum bath for a minute and then well rinsed, the gelatine will become insoluble and will dry hard and tough.

The glass plate on which the prints are to be placed should be cleaned by rubbing it with cotton-wool dipped in a mixture of methylated spirit 5 ounces, liquid ammonia 1 dram; this will remove all dirt and grease. The glass is then rubbed carefully over with powdered talc or French chalk as it is generally called. The talc is cleaned off by rinsing the glass under the tap. The prints are now carefully placed in position on the plate and covered with a wet sheet of paper, they are then squeegeed carefully down into contact with the glass. The wet paper is placed over the prints to prevent abrasion of their backs by the squeegee. If a squeegee is not available, a substitute can be made by doubling over several sheets of paper and using the rounded edge to smooth out the prints.

The writer has followed this method of procedure for several years; it takes only a few minutes to carry out, and the prints are always easily stripped from the glass when dry.—*Photographic Scraps.*

*THE CLOSE OF AN AUTUMN DAY* *By R. S. Kaufman*

# FIGURES IN LANDSCAPE

THE following article by Aubrey Harris in *Focus* is of timely interest. At the present time, when competition in pictorial photography is daily becoming keener, it is exceedingly difficult to hit on a branch which will give a beginner an opportunity of getting his foot on the first rung of the ladder that leads to a reputation. Landscape, pure and simple is most easy and most difficult; most easy to record as a photograph, most difficult to translate into a picture. There are thousands of landscapes turned out yearly, but how many of them are pictures? The eternal birch and bracken; how very tired we all are of them, and how very excellent they must be to hold the spectator's eye beyond a casual glance! But, into that imaginary birch and bracken subject introduce a figure, and at once the attention is arrested. Take the figure away, the picture is almost sure to look empty—like a scene on the stage before the entrance of the players.

Here, then, is surely an opening:—Landscape with figure or figures, and figures with a landscape setting. Least hackneyed of any branch, offering unlimited scope for original ideas, it approaches much nearer the artist's license, inasmuch as we can add, eliminate, or alter at our own sweet will. Moreover, we may travel far and often in search of landscapes and come back at the end of each day without exposing a single plate. But with the figure worker that cannot happen. He knows before he starts what he is going to do (or should know); has, if he is a wise man, all his scenes and settings worked out before he arrives at the venue; then all that remains is to place his models in their respective positions and make his exposure.

There are, of course, several requisites to successful figure work, and various methods of setting about it; and it is with the idea of extending a helping hand to anyone starting in that branch that I propose to say a few words.

Firstly, and chiefly then, your models, for on them depends largely your success or failure. You must have models who are in sympathy with your hobby; it is no earthly use asking someone to pose for you if that someone thinks it a bore, or is restless and anxious to get it all over. A model with a good face and figure is desirable, but one who is intelligent, possessed of grace and naturalness of pose, and unlimited good nature is much more so. For it is undoubtedly very trying for the model on occasions. Artists' models are used to it; it is their daily bread; but the amateur model is apt to grow restless and irritable under too much posing and altering; therefore as I said before, have all your scenes worked out on paper beforehand and save your models as much as possible.

Directly you suggest to a fellow photographer that he should have his ideas worked out on paper, he retorts: "But I cannot draw a straight line," and thinks by so saying that he has knocked that idea on the head. But why is it necessary to be a draughtsman to put your ideas on paper? They are only for your reference—not to show to people; and if you are incapable of putting on paper some sort of rough sketch to act as your guide, then you are indeed incapable. (We are told on reliable authority that many of Turner's rough sketches had no meaning to anyone but himself.) This jotting down of ideas on paper serves a double purpose. It enables you to work out your pictures before executing them, thereby enabling you to perfect them in every detail. Think about them, try different arrangements, slightly different positions, and so on; by this means you are much more likely to have something approaching a picture than if you sally forth with your mind a blank, and pose and posture your unlucky models till all naturalness of expression and ease of manner has been worried out of them. In addition to that, it enables you to jot down an expressive pose, or useful idea whenever you see one.

How often when sitting over the fire in the evening, chatting among friends, one is struck by a useful position of one or more of the party. Jot it down, never mind whether you have an immediate use for it; like cloud negatives, such notes are always useful. Some day when out on your rambles you will come across a spot, and it will suddenly occur to you how well that scene would suit such-and-such a picture; make a note of it on the spot, and you will find the value of it eventually.

The next item to consider is the dressing up of the models. The idea advocated by the late H. P. Robinson, of buying up various useful and characteristic costumes from their wearers hardly commends itself to me. My models are good-natured and long-suffering, but I fear if I suggested their donning very much in the way of second-hand clothes, their amiability would reach the vanishing point.

This reminds me of rather a curious experience which befell me. Being desirous of trying my hand at such studies as "A Flower Girl" or "Match Seller," I sallied forth one very cold, early Sunday morning to the Thames Embankment, intent on getting the real article. My obliging model patiently submitted to the hurried donning of ragged hat, shawl, and various impedimenta carried by an assistant, but when I made the suggestion that she should pretend to be asleep on a seat, she rose in her wrath. Fall asleep on the Embankment steps, sell matches in the gutter, or contemplate suicide in the muddy Thames. Yes. But put her head on an Embankment seat—preposterous! So I abandoned that idea.

Though it be unnecessary to collect rags and tatters from various beggars, every detail of the costume must be, or at least must look, genuine. The least suggestion of high-heeled boots, etc., in a country milk-maid, for instance, would instantly damn your picture. Therefore watch every little detail. Make your costumes and rehearse your poses at home. The models will thus become used to their dresses and consequently look more natural in them. Of course, the time when you will get your best chance for elaborate figure work will be if you and your models are staying in the country where there are facilities for dressing up and not too much publicity for them when they are dressed.

Much can be done with a single figure in a landscape by a coloured handkerchief on the head and a shawl over the shoulders; also perhaps by the shedding of a skirt, to show a more suitable and less "tailory" one underneath, worn for the purpose.

Finally, you and your models must be in the mood for work. You will require all your tact and good temper to get a good result. If you start out irritable and peevish, you cannot possibly expect your picture to be a success.

Take such a subject as "Flirtation," for instance, a theme almost entirely dependent on expression. I had that idea for a picture in my mind for some time, and intended executing it one particular morning, but the morning found my leading lady taking life heavily. Obviously "Flirtation" was out of the question, so I did something of the pensive order that morning, and kept "Flirtation" till the next day, when I secured the necessary mood and the negative.

Try to get your models interested in the work. I have known some exceedingly pleasant little holidays enjoyed equally by my models and myself, in which our chief and indeed almost only object was "Modelling." Take care to have no audience if you are attempting anything elaborate, the model cannot look the part if three or four spectators are exhibiting a lively curiosity in the business.

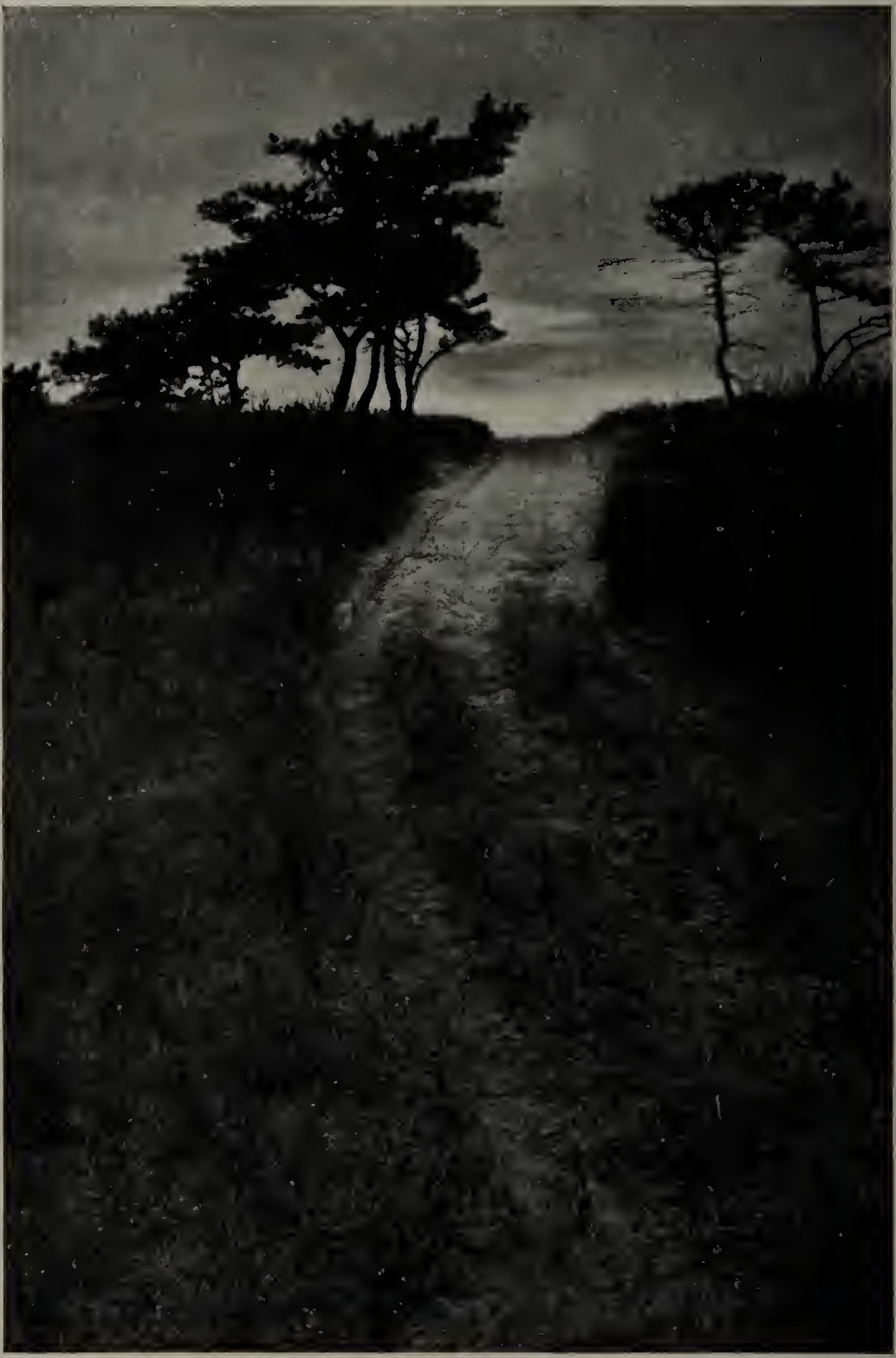
*AN ENGLISH GIRL* *By Mrs. G. A. Barton*

# LOCAL INTENSIFICATION OF NEGATIVES

It is sometimes desirable to intensify certain portions of a negative while other parts are retained in their original state. Various methods of local intensification have, at different times, been published, and most answer well in the hands of those familiar with the working of them. But in the hands of novices they have sometimes led to the ruin of a valued negative. The powder, or, as it sometimes called, the dusting-on, process lends itself well to the local intensification of negatives, and,though it has more than once been advocated for the purpose, it is but little used. It is simple to work, and with it there is no risk whatever of injury to the negative. Again, if the result first produced is not altogether satisfactory, the work can be cleaned off and commenced afresh without the slighest fear of damage to the negative, as the intensification is done on the back of it. There are various formulæ for the dusting-on process, and that given on page 986 of the "Almanac" is as good as any. It stands thus:—

| | |
|---|---|
| Gum arabic | 80 grains. |
| White sugar | 60 grains. |
| Ammonium bichromate | 60 grains. |
| Water | 7 ounces. |
| Methylated spirit | 1 ounce. |

A thin coating of this is spread upon a glass plate and dried before the fire, or over a spirit lamp, in a darkened room, and then allowed to rest for a while after it is cold. If a dry powder is dusted over the plate in this state the powder will adhere evenly all over. But if the plate be exposed to light, under a negative, the powder will only adhere where it has been more or less protected from the action of light. In intensifying a negative the powder process is used as follows:—Some of the above mixture is flowed over the glass side of the negative and drained off. The plate is then held before the fire until it is dry, and, while still warm, is laid, picture side upward, on a piece of black velvet, or cloth, and exposed to diffused light for a few minutes. It is then taken into the room, and some finely-powdered plumbago is applied with a soft camel-hair brush. It will be found to adhere in proportion as the film has been protected by the image of the negative, and, where the light has fully acted, it will not adhere at all. This being the case, it is obvious that if the powder be applied locally, only those portions will be strengthened, while the others will be left intact. In this way we have ample scope for individual treatment. Should the work not prove satisfactory the film can be cleaned off with a damp cloth and a fresh coating applied as before. If the powder takes too freely it is a sign that there is too much moisture in the film, and the plate should be slightly warmed again. If, on the other hand, it does not take freely enough the plate may be lightly breathed upon. The simplest way of fixing the powder image is to expose it, film side, to light for half an hour or so to harden the film. The slight tint of the bichromate will but very slightly retard the printing, and, therefore, need not be removed. It may be mentioned that but very little of the plumbago is necessary on the film, as it has great intensifying power. *British Journal of Photography.*



*THE CREST OF THE HILL* *By J. R. Peterson*

(First Prize, August Competition)

# THE JULY AND AUGUST COMPETITION

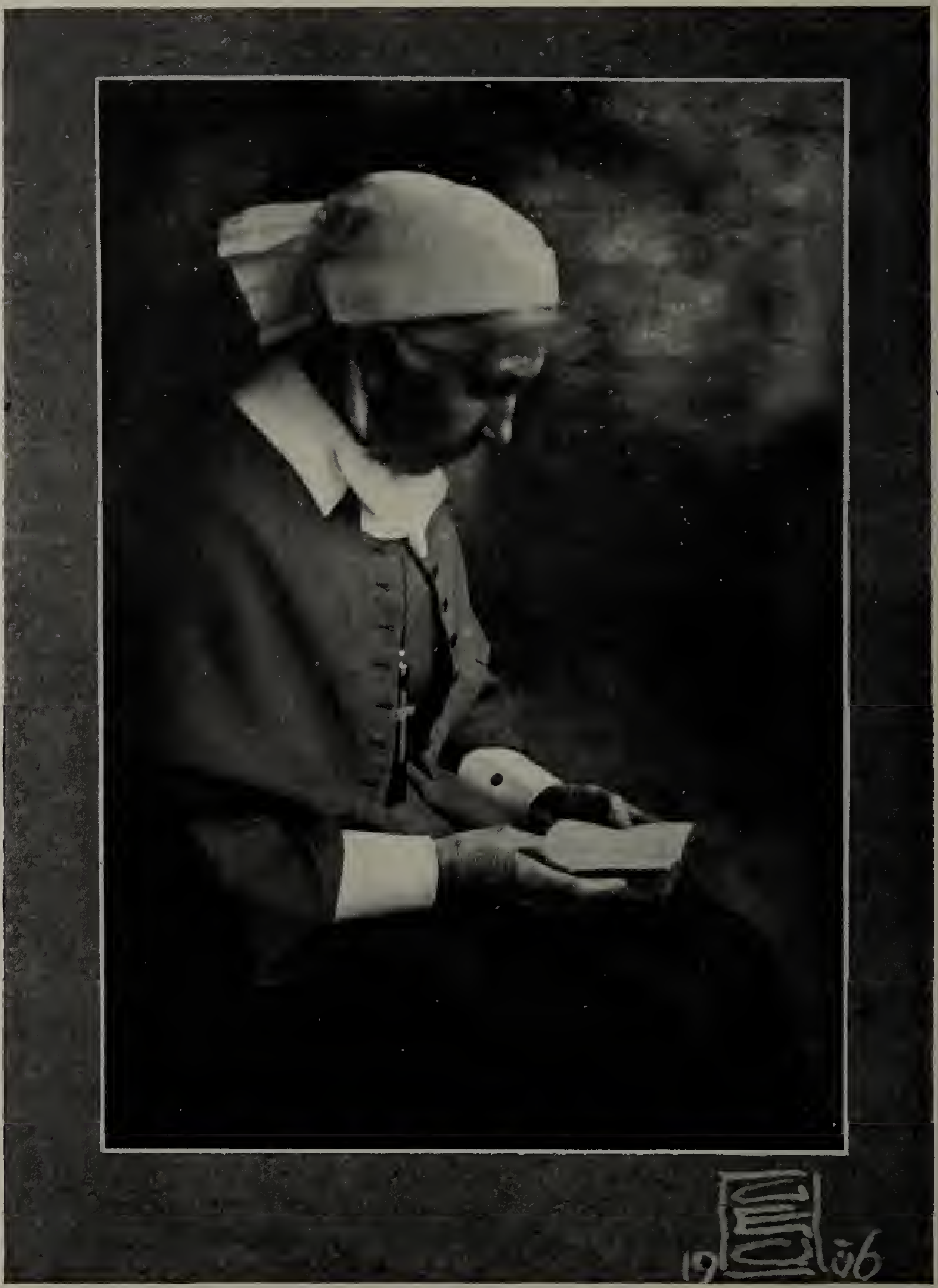
We are happy to state that the entries for this month's combined competition were of an unusually high order, and that it required several hours of debate to finally decide the winning prints. It is most gratifying to note the great advance made in serious work, the getting away from a mere record of fact, and the sincere endeavors to produce pictures.

The lens is such a literal and brutal interpreter, and only too often misrepresents things to an astonishing degree, so that the making of a picture by photography requires not only technical skill and a knowledge of the artistic, but also the will and the ability to subdue and bring into harmony the elements finally entering into the composition of the picture. The amateur is more and more appreciating the value of a lens of sufficent focal length to properly render perspective, and is learning the beauty of simplicity without which picture-making is not possible.

The first award in the competition, "The Crest of the Hill" by J. R. Peterson is an excellent example of simplicity, the subject in itself common place in the extreme, just two small groups of trees, but so well placed as to be in perfect balance, leading the eye up and along the winding road, naturally to the vanishing point. Note further the

*SPRING* *By Wm. H. Zerbe*

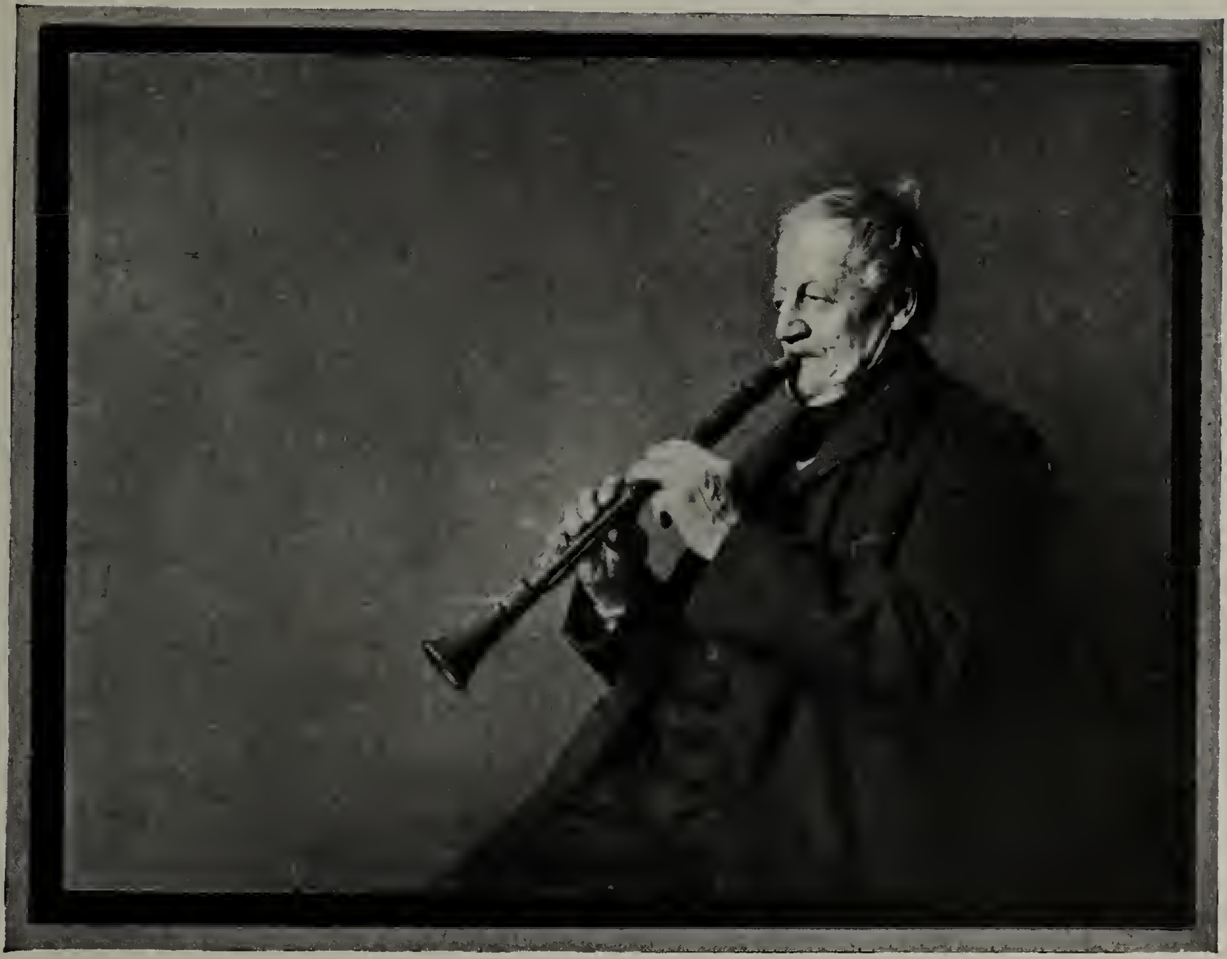
(Honorable Mention, August Competition)



*THE SISTER*

(Second Prize, August Competition)

*By Gerald Edgar Jones*



*ADAGIO* *By E. O. Hoppe*
(Honorable Mention, August Competition)

amount of definition in the foreground in perfect accord with that which would be expected at the time of day indicated by the lighting of the sky. The whole picture is well worth the study of all serious amateurs. Data, taken November, 1905, at 3 P. M. Plastigmat lens at F. 8, ½ second exposure. Orthonon plate, Brown Carbon tissue, single transfer.

The second award is entirely different in character and treatment, yet equally deserving of close inspection. "The Sister," by Gerald Edgar Jones is an extremely clever portrait, the pose and lighting all tending to a natural and proper representation of the subject, the only criticism being that unity would have been better preserved, had the lighting on the linen cuffs and neck piece been lower in tone by several degrees. The data furnished with this entry is as follows: Five seconds exposure, 11 A. M., in Winter, lens full open, Barnet plate, Paget prize, P.O.P.

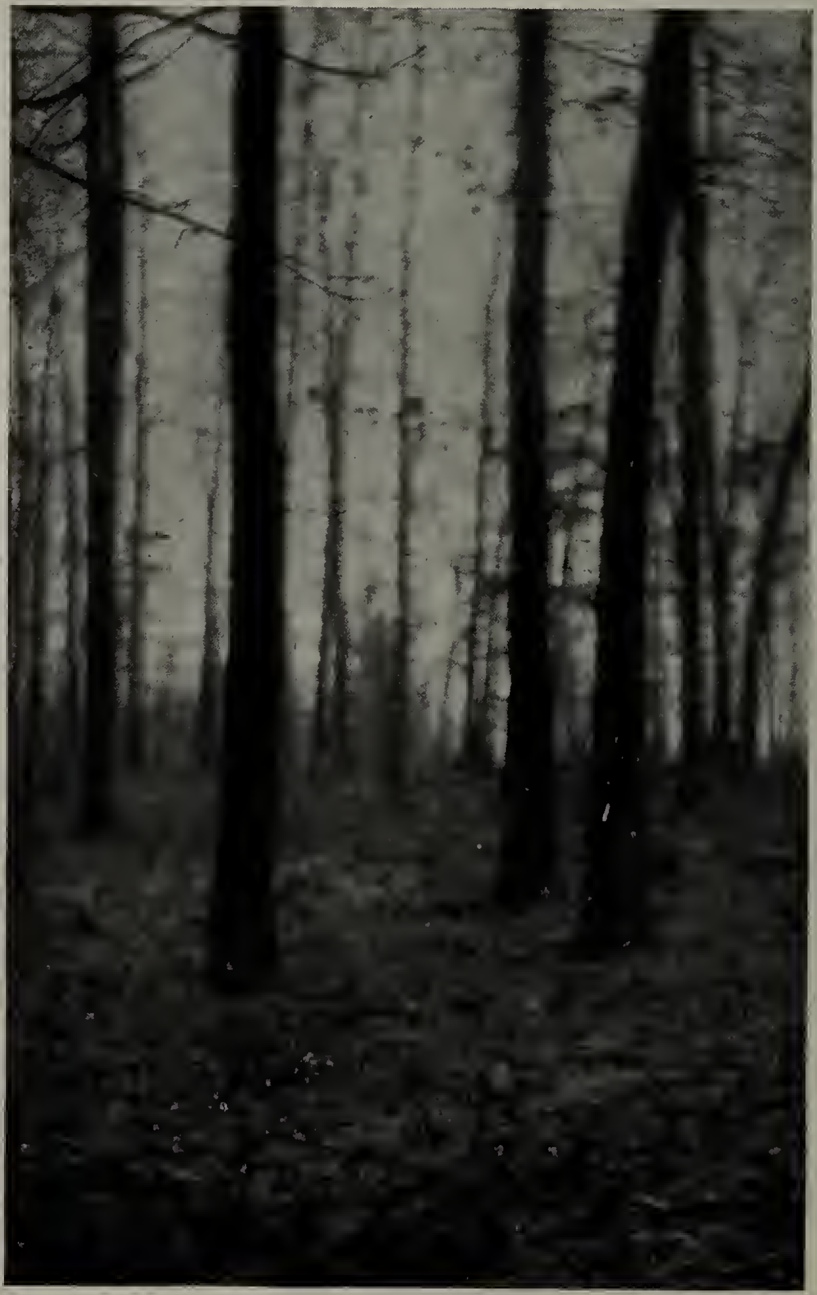
The first Honorable Mention goes to "Spring," by William H. Zerbe. Mr. Zerbe has made great advance in pictorial work during the last few years, and most of our readers are more or less familiar with his work. The principal criticism of this picture is that the road rather unfortunately leads us into the centre of the picture, and leaves us no way of getting out without retracing our steps, the vanishing point is evidently to the right, just between the two trees, one on each side of the stone wall, so we are left to infer that the road turns to the right. A good point to remember, lead your viewer into the picture, and also afford him a means of graceful exit. Data, Cramer Inst Iso Plate, Goerz lens, 2 seconds with ray screen, Rotograph Carbon.

Second Honorable Mention was

awarded E. O. Hoppe for his study "Adagio." The pose lighting and spacing are all good and the mounting is good taste, the whole forming an affective composition. Data, Diffused light, exposure 7 seconds, Time of day 11 A. M. stop F. 8 Goerz lens. Kodoid plate. Pyro soda developer, printed on Platinotype.

Third Honorable Mention "Autumn Twilight" by John W. Schuler. This is an excellent example of diffusion, properly applied, there's a difference between diffusion and fuzziness. Just step to the edge of a forest at twilight, and you will see what is meant, the twilight is instantly felt when looking at this picture. Data, Dull light ½ second exposure. Time 4 P. M., November, stop F. 8, Stanley plate. Ortal developer, W. & C. Platinotype paper.

Keep up the good work, profit by the winning prints, and your own mistakes, the good pictures made by accident are very few.



*AUTUMN TWILIGHT* *By John W. Schuler*
(HONORABLE MENTION, AUGUST COMPETITION)

# A PHOTOGRAPHIC LIVER

BY MILTON B. PUNNETT.

ASK a pessimist to express the law of compensation and his answer will be "There is never a gain without a corresponding loss." Now ask the optimist and cheerily the answer comes "There is never a loss without a corresponding gain."

But don't censure the pessimist too severely. Lay it up against his liver.

So when you hear a photographer talking about "the good old times before Kodaks and other new fangled cameras and developing tanks made their appearance—when every man sensitized his own paper, compounded his own developing, toning and fixing solutions, etc., etc.," be charitable—he has a photographic liver.

It came to pass in the days of my youth that I was raised to the sublime degree of L. C. of P. M. that is "Local Correspondent of a Photographic Magazine." Such an appointment as all young correspondents know, also includes a halo, invisible to the layman but quite an entity to the recipient. In order to convince my principals that they had made no mistake in their choice, I took "the power of the press," that is to say "my halo" and a note book and proceeded to interview the leading photographers of the city so as to obtain material for an article. As I dreamily look back to that day in the past one interview appears especially prominent. It was at the end of the transition period and the dry had nearly vanquished the wet plates. Only a few old photographers with photographic livers, deploring the change, clung to their moist love. I chanced upon one of these and the burden of his wail was "D—n them glue plates." Deploring the fact that it was no longer necessary to spend several years in learning the varying vagaries of a sensitizing bath and that anyone could now "buy brains by the box," he gradually fell from his position as leading photographer of the city until finally death put an end to the unequal struggle. Yes; unequal not because the wet plate was slower than the dry plate but because there is a limit to what any man can accomplish, and if his time and mind are occupied with what may be called the drudgery of the profession the artistic and business ends must suffer correspondingly.

Likewise the amount any man can know is comparatively little and he who grasps the essential of things and acts accordingly makes the most progress. Elimination and concentration each occupy a corner in the foundation of modern business. It is a rule with very few, if any, exceptions that a man cannot be a great inventor and also a great business man. Through his secretaries, stenographers and clerks in general the business man eliminates in order that he may be able to concentrate. And this is the great tendency in modern photography in spite of the man with the photographic liver.

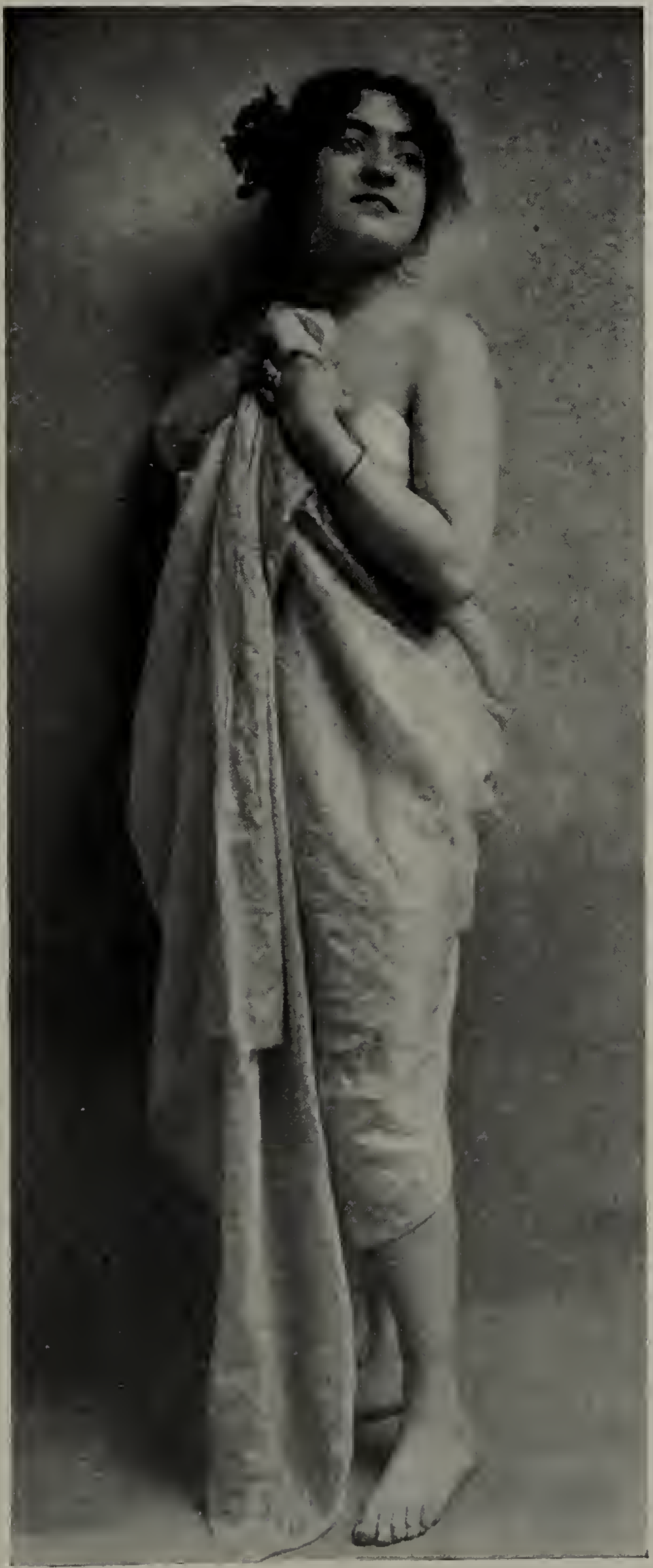
The manufacturer has become the photographer's assistant, and spurred on by competition, is using every endeavor to become as valuable an assistant as possible. With the amateur he has dealt more kindly than with the professional, due partly to the fact that there was more room to advance along their lines and also because they came to the subject with an open mind and a healthy liver.

Dry plates, ready sensitized papers, kodaks, films, daylight cartridges, new developing agents, Velox papers, developing tanks, etc., followed each other in rapid succession. In the beginning the cry "The amateurs are ruining our business" was raised by the professional photographers. But when our eyes had become accustomed to the red light of the situation, it was found that "there is never a loss without a corresponding gain." As the knowledge of photography spread the knowledge of what constituted good work with a just appreciation thereof also developed and became manifest in a raising of the social status of the professional photographer together with financial recognition.

In what has the professional not been an equal participant with the amateur? Mainly in those things which pertain to film. Yet there are no reasons why they should not share equally in these benefits. If the every-day amateur can obtain better results by using the daylight system of loading, exposing and developing than by the older methods, why should not the same system be of equal benefit to the professional portraitist who works under comparatively uniform conditions.

It will! The time is ripe. Let the inventive Moses appear and deliver the professional as the amateur has been delivered. The time spent in changing plates, the tiresome developing after a busy day together with many other disagreeable features of the dark room can be either partially or completely abolished. Eventually the dark room as we know it to-day will be but a memory. And when the Moses appears don't meet him with sullen silence or sarcastic sayings. Take a liver pill and then reach out to him the glad hand of welcome. Adopt the innovation and use the time saved to develop within you a love of the artistic and a clear conception of the laws governing the production of works of art. Don't try to be an artistic chemist. Leave the chemical part to the manufacturer and try to be an artist. You will find that subject so great that at the close of a busy life you will be like a child playing on the seashore who perhaps has found a prettier pebble than his companions but there are endless reaches still to be explored.

*THE FAVORITE CHICK* *By Alfred J. Meyer*



*THE MODEL* *By R. L. Curran*

# EDITORIAL NOTES

We have been requested to publish the following for the benefit of tourists; we acknowledge our indebtedness for the same to *The Practical Photographer.*

The following sentences, type written on labels affixed to packages of plates or films will assist in getting through the Customs:—

English.—Sensitive Photographic Plates.—The box must only be opened in a room quite dark or illuminated by red light.

French.—Plaques Photographiques sensibilisées, N'ouvrir la boite que dans une chambre parafaitement obscure ou éclairée à la lumière rouge.

Spanish.—Placas fotográficas sensibilizadas. No se debe abrir la caja á no ser en un cuarto perfectamente oscuro ó alumbrado con luz roja.

Dutch.—Lichtgevoelige photographische platen. Alleen te openen in eene geheel donkere kamer of bij rood licht.

Portuguese.—Chapas photographicas sensitivas. A caixa só se deve abrir em um quarto totalmente escuro ou alumiado a luz encarnada.

Italian.—Lastre fotografiche sensibli. Debbono aprirsi in luogo perfettamente buio od illuminato dalla luce rossa.

German.—Lichtempfindliche photographische Trockenplatten! Nur in völlig dunklem Zimmer oder bei rotem Licht zu öffnen!

Norwegian.—Lysmodtagelige fotografiske Plader. Bör kun aabnes i et aldeles mörkt Rum eller ved rödt Lys.

Swedish.—Ljuskänsliga fotografiska Platar. Maste ej öppnas utom i ett absolut mörkt rum eller vid rödt ljus.

English.—This package only contains wearing apparel and photographic apparatus for personal use.

French.—Ce colis ne contient des vêtements et un appareil photographique pour usage personnel.

German.—Dieses Packet enthält Kleidungstücke und photographische Apparate für persönlichen Gebrauch.

Italian.—Questa cassa contiene effettid'uso ed apparecchi fotografici per solo uso personale.

* * *

Unfortunately a camera sometimes falls into the hands of persons devoid of the moral sense, or else, to be charitable, thoughtless in the extreme; many of us have been compelled to view photographs of some one's daughter or sister taken in anything but conventional attitudes or attire. Such photographs can but decrease the respect of all persons for the maker, and in addition, are most liable to cast discredit upon the thoughtless and many times innocent subject. Photographing the nude, even by a skilled and trained artist is a delicate proposition, the line between art and vulgarity is exceedingly thin, and even with the greatest care and effort, ninety per cent. of the nude studies, however skillfully and conscientiously made, are in reality naked and anything but artistic. Photography is too brutally frank and realistic for work of this character, and even when reproduced in the plastic medium of gum, often retains too much realism to be pleasant. It is true that some very pleasing and artistic photographic nudes have been produced, but these few do not by any means make up for the multitude of the other kind. Leave this class of work to the scientist who makes such photographs as records or data for scientific research, or to the trained artist who wishes to make use of them as studies for reproduction in a more pleasing medium. A good rule to follow is never make a photograpn you could not show your mother or sister.

* * *

Much attention is being given at present to the question of time or tank development. This is undoubtedly due to the great success of tank development as perfected by the Eastman Kodak Company for developing their film. There is absolutely no question as to the practicability and correctness of this method, and why any photographer should be willing to pass hours in the dark room when practical means have been devised to do away with this irksome feature of photography, is past understanding. Several tanks for plate development are also on the market, and we earnestly suggest a trial of this method. Dilute developer can not harm a normal exposure, is exactly the thing needed for an under exposure, and prevents self deception in attempting to visually judge the correct development of an over exposure.

* * *

Every once in a while some one writes in and inquires "what is the best developer." There can be but one answer "The one prepared according to the formula given by the maker of the plate. It is true, however, that all developers will produce identical results if development be stopped at the proper moment. Unfortunately, however, no definite rule can be given for this, all developers are good, but if you are not far enough advanced in photographic chemistry to make the necessary experiments, stick to the formula given by the maker of the plate.

THE SPIRIT OF THE WIND By *Jandrier*

# A CHAPTER ON SOLUTIONS

BY A. W. BROMLEY.

MOST of the substances used in photography are easily and freely soluble in water. There are chemicals which have to be reduced to impalpable powder, and boiled before they consent to surrender their solidity, but the photographer has nothing to do with any of them. By "freely" soluble, chemists mean that a fairly large quantity will dissolve in a definite quantity of water. There is a limit to the amount of every substance that can be dissolved in a given quantity of water, and when that limit is reached the solution is said to be saturated. If a substance will dissolve in less than say eight or ten times its weight of water it may be considered to be freely soluble.

With some chemicals solution is complete almost as soon as they are put into water, but with others the process must be hastened in some way. Of course, where time is no object, the substance may be left in the water for several hours or days, shaking occasionally if in a bottle, or stirring if in an open vessel. Or it may be reduced to fine powder, when it will generally dissolve much quicker than if in crystals. A third method, and the most useful one to photographers, is to use heat in some way; either to begin with hot or boiling water, or to heat the vessel containing the partly-formed solution. Of these three alternative ways of making a solution that will not make itself, so to speak, the first is slow and the second troublesome while the only objection to the third is that some chemicals are changed in composition by heat. Here again, however, the photographer is spared worries that may afflict other workers who have to prepare solutions. There is no substance commonly used in photography which cannot be dissolved in hot water without injury.

It is useful to remember what chemicals will dissolve easily in cold water, and what are best dissolved with the aid of heat. The following may be dissolved cold; Amidol, ammonium bromide, ammonium persulphate, ammonium sulphocyanide, citric acid, gold chloride, potassium bromide, potassium, carbonate potassium citrate, potassium ferricyanide, pyro, sodium chloride, sodium hydrate, uranium nitrate.

The following may be more quickly dissolved in hot water: Alum, borax, ferrous sulphate, hydroquinone, hypo, lead acetate, lead nitrate, mercuric chloride, metol, potassium bichromate, potassium metabisulphite, potassium oxalate, sodium carbonate, sodium sulphite, sodium phosphate.

Some of the chemicals in the second list dissolve so readily that it would be scarcely worth while to get hot water for them; still, I have included all that I should use hot water for if it were near at hand. Of course, it is easier to prepare a weak solution than one that is nearly saturated. Almost the only solutions that are used so strong as to be nearly saturated, however, are hypo and mercuric chloride. The former is soluble about one in 2½, and it is generally used that strength, or a little weaker for plates. Mercuric chloride is only soluble about one in 20, and a saturated solution is used for bleaching negatives previous to intensification.

Solutions should be strained through absorbent cotton wool after they are made. This removes any fragments of dirt that may be in the chemicals, and also makes sure that there are no un-dissolved crystals in the solution. In buying a funnel choose one with a tapering neck, in preference to one the neck of which is of the same bore throughout. Take a little piece of cotton wool, tease it out, and drop it into the funnel. Then swill it into position by running water through the funnel; if you push the wool into position with a penholder, or something of that sort, it will most likely "choke" before your solution is all strained.

It is worth while to remember that a fluid ounce of water weighs an ounce, and there are twenty ounces in a pint which therefore weighs a pound and a quarter. Sometimes water can be weighed where it is impossible to measure it, as, for instance, when it is too hot to be poured into a measure. Of course one doesn't want a whole pint of water to make a pint of solution; some allowance must be made for the chemicals—roughly, about half their weight. The best way to measure solutions, however, is to make just enough to fill the bottle, or to mark it at the height to which the quantity you always make comes. The simplest way of doing this is to place the label so that the top of it is just the height of the liquid.

In making a quart of, let us say, hypo solution it is not necessary to use all boiling water. This makes the solution a long time in cooling to normal temperature—rather a nuisance if one wants to use it. While the water is boiling, put the hypo into a jug and just cover it with cold water. Then get the bottle and funnel ready, with a piece of cotton wool in the neck of the latter. Now pour a little boiling water into your mixture of hypo and cold water, and rotate the jug—that is, give it a circular motion, so that the contents move round without splashing upwards. After a minute pour the lukewarm solution into the funnel; it will not crack either the funnel or the bottle, and when they are warm, they will bear the hot solution with safety. Pour some hot water over the crystals left in the jug, rotate again for a few minutes, and pour the hot solution into the funnel.

Repeat until all the hypo is dissolved, and then make up to a quart with cold water. Remember it is not heat that cracks glass vessels, but sudden changes of temperature. You can put boiling water into a glass bottle, if you previously rinse it out first with lukewarm, and then with fairly hot water.

To cool warm solutions put them into a bottle, cork tightly, and sink the bottle in cold water. Fixing solutions may be prepared with tap water, but developing, toning, intensifying, and reducing solutions are best prepared with distilled water. If that is not obtainable, use water that has been kept boiling for three or four minutes. Solutions keep best in a cool, dark place. The bottles should always be tightly corked; solutions also go bad much quicker in bottles that are partly empty than in those that are quite full.

Always either wash out vessels that have been used for solutions at once, or fill them with water until it is convenient to wash them. Never let them dry dirty. Dishes should be sunk in water after they have been used. There are tiny cracks too small to be seen in many vessels, and it takes a liquid a few minutes to find its way into these. If one makes a solution, and allows the empty jug to dry dirty, these cracks will contain minute crystals which ordinary rinsing will not remove. A vessel that has been neglected in this way must be soaked in water for ten or fifteen minutes and then thoroughly washed.—*Amateur Photographer.*

# THE USE OF ALKALIES IN ORGANIC DEVELOPERS

*Paper read before the Société Francaise de Photographie, Dec. 1, '05.*

TRANSLATED BY HENRY F. RAESS.

IT is generally conceded that the object of adding alkali to a developer is for the purpose of neutralizing the HBr which is set free during development. How the acid is formed is not definitely settled, perhaps hydrogen is set free from the developer, possibly by the action of the developer on the water, in any case this hydrogen combines with the bromine of the AgBr and forms HBr. Reeb (*Bulletin de la Société francaise de Photographie,* 1904, p. 324), does not believe in the above reaction, but thinks that the alkali combines with the developer and that this compound is then decomposed by the HBr. He admits, moreover, that a substance in order to act as a developer, that is bring out the latent image, must have the constitution of a salt, or be able to form a salt at the time of development in such a manner that the base of the salt can combine with the HBr. According to these theories the amount of alkali necessary for development should be the same in each case. Indeed, whether the alkali is free or combined with the developing substance, it will saturate the same quantity of HBr. Now there is a considerable difference between the quantity of alkali employed in practice, and the amount required according to above theories, which therefore is not altogether satisfactory. In the investigation we have sought to explain the part played by alkali in developers, and considering the following points: First. What is the average quantity of HBr involved in the development of a gelatine bromide plate of a certain size? What proportion exists between the reducing power of a developer containing this quantity of alkali and that susceptible of producing the maximum reduction? Is this quantity the same for a certain developer, with caustic or carbonated alkalies, and for the same alkali does it vary according the nature of the developer? Second. In a given developer can we replace a certain weight of alkali by equivalent molecular weights of other alkalies, or by their substitutes in order to obtain the same reducing action? In the contrary case what relation exists between the molecular quantities and those found? Third. The proportions between the corresponding weights of different alkalies which give a certain reducing power to a developer, are they the same for all developers? Fourth. Is it possible to obtain the same reduction in equal periods of time by employing quantities of different reducing agents proportional to their molecular weights with a fixed quantity of alkali? Fifth. After all what is the role of the alkalies in developers?

## EXPERIMENTAL PART.

### I.

In order to determine the average quantity of HBr set free in developing a plate 13x18 c.m. (about 5x7 in.) for example, an image with strong high lights (in order to obtain strong reduction) is printed on six plates 13x18 c.m. The development was carried as far as possible to give maximum intensity, then the plates after fixing were washed, drained and treated with $HNO_3$ to dissolve the silver reduced by the developer. By prolonged boiling of the solution the gelatine is destroyed and the AgCl determined. Results obtained:

AgCl 0.3652 grams.

Corresponding to Ag 0.2740 grams.

Corresponding to HBr 0.2052 grams for six plates 13x18 c. m. for each plate 0.342 grams. HBr corresponding to 0.02366 grams KOH. We have tried to see if with this small amount of KOH we can use hydrochinone for example, to develop a plate 13x18 c.m. or four plates with four times the quantity, 75 c.c. of developer were used. In the first case the development was very slow, 90 minutes at 20 degrees C. the plate had little intensity and was fogged. In the second case the time of development was respectively 6, 12, and 28 minutes, and the fourth plate after 35 minutes only gave a very weak image, but it is necessary to pay attention to the quantity of developer removed by each plate when it is taken out of the bath. The same experiment was repeated using the corresponding molecular quantity of caustic soda (0.017 gms.) The result obtained were almost the same; but when the NaOH is replaced by the corresponding molecular quantity of $Na_2CO_3$ (0.023 gm.) the reducing power is weaker. If the exact weight of the developing substance (0.023 hydrochinon) which corresponds to 0.017 gm of NaOH, the latter being necessary to neutralize the HBr, the reducing power is practically nothing. We have also determined the quantities of caustic alkali (soda for example) and also for carbonate, beyond which the reducing power is not increased, in developers containing the usual quantities of reducing substance and sulphite.

The results are given in table I. We have compared the reducing power of hydrochinon (containing 10.0 gms. and 40.0 gms. $Na_2SO_3$ anhyd. per litre) using in each case 75 c.c. of solution with the following quantities of alkali:

No. 1 0.017 gms. NaOH.

No. 2 0.023 gms $Na_2CO_3$.

these are the quantities necessary to neutralize the HBr set free in developing a plate 13x18 c.m.

No. 3 0.56 gm. NaOH.

No. 4 2.63 gm. $Na_2CO_3$.

these quantities are for 75 c.c. of developer giving the maximum reducing power. The time required to obtain images of equal intensity with the above quantities, bear the relation of 120 to 1 in No. 1 and No. 3, that is with NaOH, and 60 to 1 in No. 2 and No. 4, with $Na_2CO_3$.

## II.

We made an investigation to determine the effect of replacing the quantity of a certain alkali used say with hydrochinon, with equal molecular weights of other alkalies or similar substances under the same conditions. In these cases the caustic alkali alone gave good results, carbonates and other similar substances except trioxymethylene, gave variable results, and altogether inferior to caustic alkalies.

We endeavored to obtain equal effects by methodically increasing the quantity of alkali. To this end we tried the effect of increasing the amount of each alkali or its equivalent in each series of experiments, the given proportions were used, and developed the plates the same time and to the same intensity. Following are the effects obtained in a given time, the quantities of alkali were varied so as to give like results. We have proved that developers can be made with carbonated alkalies having the same reducing effect as with caustic alkali; but only by using from two to eight times the theoretical amount. Nevertheless with certain developers these results are only obtained if the caustic alkali is in small quantity, for if in large quantities the caustic alkalies give strong reducing action that cannot be obtained with carbonates, even if large amounts of the latter are used. The preceding tests have

## TABLE I.

| | Hydrochinone | Metoquinone | Metol-hydrochinone | Metol | Pyrogallol | Eikonogen | Hydramine | Edinol | Pyrocatechin | Adurol | Para-amidophenol | Glycine | Para-phenylene-diamene |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Composition of the developers used and the quantities of caustic soda and sodium carbonate per litre of the developer in which the quantity of reducing substance is constant. | | | | | | | | | | | | |
| | Water........1000.0<br>Sodium sulphite<br>anhyd ....40.0<br>Hydrochinone..10.0 | Water........1000.0<br>Sodium sulphite<br>anhyd........ 60.0<br>Metoquinone....9.0 | Water... .. 1000.0<br>Sodium sulphite<br>anhyd.........50.0<br>Metol....... 5.0<br>Hydrochinone...9.0 | Water.. ......1000.0<br>Sodium sulphite<br>anhyd.........50.0<br>Metol.......... 10.0 | Water.... .. 1000.0<br>Sodium sulphite<br>anhyd. ....... 25.0<br>Pyrogallol......10.0 | Water...... 1000.0<br>Sodium sulphite<br>anhyd...... ...30.0<br>Eikonogen.....35.0 | Water.... .. 1000.0<br>Sodium sulphite<br>anhyd.... . 15.0<br>Hydramine.....5.0 | Water.... 1000.0<br>Sodium sulphite<br>anhyd..........40.0<br>Edinol .........10.0 | Water....... 1000.0<br>Sodium sulphite<br>anhyd..........40.0<br>Pyrocatachine..10.0 | Water.........1000.0<br>Sodium sulphite<br>anhyd.... ......40.0<br>Adurol ........10.0 | Water ... ....1000.0<br>Sodium sulphite<br>anhyd.........100.0<br>Para-amido-<br>phenol.... . 10.0 | Water ... 1000.0<br>Sodium sulphite<br>anhyd .........45.0<br>Glycine......... 17.0 | Water .. .....1000.0<br>Sodium sulphite<br>anhyd . .......60.0<br>Para-phenylene<br>diamine... .... 10.0 |
| Caustic soda (titrated)..... | 7.5 | 7.5 | 7.5 | 15.0 | 10.0(1) | 20.0 | 12.5 | 15.0 | 22.5 | 12.5 | 17.5 | 17.5 | 17.5 |
| Sodium carbonate anhyd.. | 35.0 | 20.0 | 15.0 | 20.0 | 30.0 | 50.0 | not completely soluble. | 15.0 | 45.0 | 30.0 | not completely soluble. | 45.0 | 20.0 |
| Theoretical quantity of caustic soda necessary to exactly saturate the HBr formed by the reducing substance employed in No. 1. | 7.3 | 6.0 | 10.4 | 7.6 | 6.3 | 10.7 | 3.65 | 5.7 | 7.3 | 5.5 | 7.3 | 8.2 | 7.3 |

(1) Difficult to judge the cause of the intense veil.

TABLE II. TABLE GIVING THE REPLACEMENT OF ALKALIES AND THEIR EQUIVALENTS IN DIFFERENT DEVELOPERS.

| Names of the alkalies and their equivalents. | Calculated equivalent amounts. | Hydrochinone | Metoquinone | Metol-Hydrochinone | Metol | Pyrogallol | Eikonogen | Hydramine | Edinol | Pyrocatechin | Adurol | Para-amido-phenol | Glycine | Para-phenylene-diamine |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Composition of the developers which correspond to the numbers in the table. | | | | | | | | | | | | |
| | | Water 1000.0<br>$Na_2SO_3$ anhyd 40.0<br>Hydrochinone 10.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 60.0<br>Metoquinone 9.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 50.0<br>Metol 5.0<br>Hydrochinone 9.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 50.0<br>Metol 10.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 25.0<br>Pyrogallol 10.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 30.0<br>Eikonogen 35.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 15.0<br>Hydramine 5.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 40.0<br>Edinol 10.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 40.0<br>Pyrocatechin 10.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 40.0<br>Adurol 10.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 100.0<br>Para-amido-phenol 10.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 45.0<br>Glycine 17.0 | Water 1000.0<br>$Na_2SO_3$ anhyd 60.0<br>Para-phenylene-diamine 10.0 |
| LiOH | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| NaOH | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16·6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 |
| KOH | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 | 23.3 |
| $Li_2CO_3$ anhyd. | 15.4 | 86.0 | 31.5 | 31.5 | 31.5 | 43.0 | 31.5 | solution incomplete. | 31.5 | 31.5 | 31·5 | solution incomplete. | 101.5 | 491.0 |
| $Na_2CO_3$ anhyd. | 22.1 | 160.0 | 57.0 | 57.0 | 57.0 | 57.0 | 57.0 | " | 57.0 | 57.0 | 57.0 | " | 203.0 | 727.0 |
| $K_2CO_3$ anhyd. | 28.7 | 126.0 | 47.0 | 47.0 | 47.0 | 54.0 | 47.0 | " | " | " | " | " | 124.5 | 600.0 |
| Trioxymethylene | 12.5 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 20.0 | 14.0 | 7.0 | 8.5 | 14.0 | does not develop | 13.0 |
| Aldehyde | 24.1 | 34.0 | 34.0 | 28.5 | 31.5 | 34.0 | 34.0 | 43.0 | 28.5 | 23.0 | 28.5 | 28.5 | 26.0 | 18.0 |
| $Na_3PO_4$ | 158.3 | 200.0 | 200.0 | 143.0 | 171.5 | 200.0 | 200.0 | 290.0 | 128.5 | 143.0 | 128.5 | 143.0 | 152.0 | 318.0 |
| Acetone | 30.0 | 457.0 | 143.0 | 114.0 | 114.0 | 428.5 | 143.0 | solution incomplete. | 143.0 | 143.0 | 286.0 | solution incomplete. | 623.5 | weak action. |

Proportion of aldehyde and acetone are indicated by volume (amounts equaling 10 gms. LiOH).

Ammonia has been omitted because this substance in all cases gives a dichroic veil which not only prevents judging the intensity of the plate but renders it practically useless.

The quantity of caustic alkali in solution has been carefully determined as the commercial products have a variable composition.

been made with the principal developers on the market. In table II. these tests are given, and all the numbers given corresponding to 10.0 gms. of LiOH as a basis as this alkali has the lowest molecular weight. In using glycine as a developer, we have shown that when a smaller quantity than 1.0 gm. of NaOH is used with 2.5 gms. of glycine that the reducing power is very weak and notably less than if carbonates had been used. Above the preceding quantities the action with carbonates is weaker than with caustic alkalies. The figures in the table refer only to quantities above that limit. In the para-phenylene-diamine developer on the contrary the use of caustic alkali gives rise to strong reducing action, more energetic than with carbonates, and no longer increases beginning with quantities corresponding to 20.0 gms. $Na_2$ $CO_3$ dry to 10.0 gms of para-phenylene-diamine.

### III.

Effect of different weights of alkali and developing substance.

The same tests were repeated.

First—With the same proportions of alkali corresponding to 1.75 gms. LiOH per litre, and with one third the amount of reducing substances.

Second—With the same proportions of alkali, with double the quantity of developer and sulphite.

Third—With one third the preceding quantity of alkali, and also one third the amount of developer and sulphite. With these different conditions the figures in the table are considerably modified for some developers. With eikonogen, metol, para-phenylene-diamine, metoquinone, metol-hydroquinone, para-amidophenol and adurol, the differences are insignificant.

### IV.

We have compared the reducing power of different developers containing equal molecular weights of developing substance which have been added the same quantity of caustic alkali, soda for example. These developers differ considerably in their reducing power. We have known that it is possible to prepare developers containing equal molecules of different reducing agents possessing the same energy by adding variable quantities of LiOH or $Na_2$ $Co_3$. The quantities of alkali necessary to obtain this result are given in table III.

### V.

Examination of the table where alkalies are replaced in different developers, enables us to make the following assertions: First, caustic alkalies can replace each other in molecular quantities in all developers. Second, the quantities of carbonated alkali are not only much larger than the molecular quantities calculated for caustic alkali, but the quantities of different carbonates are not proportional to their molecular weights. Besides the $K_2CO_3$, although it has a higher molecular weight than $Na_2CO_3$ should always be employed in smaller proportion than the latter since the amount of caustic soda required in a developer can only be replaced by a larger quantity of caustic potash. The quantities employed are practically the same with a large number of developers, but vary considerably with the following, pyrogallol, glycine and para-phenylene-diamine. Hydrochinone although isomeric with pyrocatechin requires about three times the quantity of carbonated alkali. But the glycine and para-phenylene-diamine are exceptions to the preceding rule. As to glycine we have shown that with quantities of caustic alkali less than 1.0 gm. of NaOH to

## TABLE III.

| Names of the various developers in the order of their reducing power. | Equal molecular weights of the reducing substances in 1 litre of the developer containing 45.0 gms. of Na 2 SO3 anhyd. | With NaOH. | | With Na2CO3. | |
|---|---|---|---|---|---|
| | | Relative amount of NaOH necessary to produce the same reducing energy and the amount of Na OH necessary for metoquinone taken as the standard. | Comparative reducing power of different developers, glycine taken as the standard. | Relative amount of $Na_2CO_3$ necessary to produce the same reducing energy and the amount of $Na_2CO_3$ necessary for metoquinone taken as the standard. | Comparative reducing power of different developers, glycine taken as the standard. |
| Metoquinone....... | 12.0 | 1.0 | 4.2 | 1.0 | 74.0 |
| Meto.-Hydrochinon | 4.0 metol<br>9.0 hydrochinon | 1.25 | 3.33 | .4 | 18.5 |
| Para-amido-phenol | 11.0 | 1.25 | 3.33 | solution incomplete | 0 |
| Para-phenylene-diamine... ..... | 11.0 | 1.25 | 3.33 | particular case | 0 |
| Hydramine ........ | 11.0 | 1.66 | 2.5 | solution incomplete | 0 |
| Pyrogallol .. ...... | 12.6 | 1.66 | 2.5 | 11.0 | 6.7 |
| Hydrochinon....... | 11.0 | 2.08 | 2.0 | 34.0 | 2.2 |
| Pyrocatechin....... | 11.0 | 2.03 | 1.8 | 40.0 | 6.1 |
| Metol ...... ....... | 17.0 | 2.3 | 1.8 | 10.0 | 7.4 |
| Eikonogen......... | 26.0 | 2.3 | 1.8 | 11.0 | 6.7 |
| Edinol ............ | 14.0 | 2.8 | 1.5 | 32.0 | 23.0 |
| Adurol... ......... | 14.5 | 3.0 | 1.43 | 17.0 | 4.1 |
| Glycine ............ | 16.5 | 4.2 | 1.0 | 74.0 | 1.0 |

2.0 gms glycine give a developer with weak reducing power even less than with carbonated alkalies, but above this amount the caustic alkalies are more powerful than the carbonates. This phenomena can be explained by supposing that the carboxyl (COOH) group in the glycine

$$C_6H_4\begin{matrix}\diagup OH \\ \diagdown NHCH_2COOH\end{matrix}$$

is first neutralized by the caustic alkali and a salt formed, which later is not decomposed by the HBr. Now since the $Na_2CO_3$ does not produce this neutralization in the cold, it is ready to act upon the HBr and neutralize it. There is no evolution of $CO_2$ gas, if we treat glycine cold with $Na_2CO_3$. Moreover the quantity of NaOH required to produce good development is greater than the amount needed to neturalize the acid group and form a salt. These facts strengthen our hypothesis. As to para-phenylene-diamine the figures are much higher, about twenty times the molecular quantities, while small quantities of caustic alkalies are sufficient. This difference is explained if it is admitted that, para-phenylene-diamine which is a strong base, combines with the HBr first, and that this salt is not decomposed by carbonated alkalies in the cold. In support of this can be shown that para-phenylene-diamine hydrobromide does not give off

$CO_2$ gas with $(Na_2CO_3)_2$ at ordinary temperature. With the compounds which can replace the alkalies we obtained different figures, the greater number, such as trioxymethylene, aldehyd and $Na_3PO_4$, are near the equal molecular quantities calculated for the alkalies. Acetone gives very diverse numbers anywhere from five to twenty times the molecular quantities calculated for $NaOH$. Besides with some developers the reducing power is greatly diminished if more than a certain quantity of acetone is used. The same difficulty obtains with trioxymethylene. Tests made employing just enough alkali to neutralize the HBr set free in developing a plate 13x18 c.m. it was observed that this small amount of alkali is sufficient for development if an excess of hydrochinone is used. On the contrary it is insufficient if the calculated quantity of hydrochinone is used which corresponds to the amounts of alkali necessary to combine with the HBr set free from the above size plate. In the last case, however, a weak reduction can be obtained by considerably increasing proportion of alkali. In examining the quantities of caustic and carbonated alkali required for different developers in order to obtain the maximum reduction with a given weight of reducing substance it is noticed that the weights of alkali are very different for the same amount of developing substance having equal or nearly the same molecular weights such as hydrochinone, pyrocatechin, para-amido-phenol and para-phenylene-diamine. These quantities of alkali moreover (except with hydrochinone) from those required to completely saturate the HBr formed by the $H_2$ liberated by the developing substance, assuming that one molecule sets free one molecule of $H_2$. Finally these experiments show that it is possible to obtain the same reducing effect with equal molecular weights of different developing substance but only by using variable quantities of the same alkali whether it be caustic or carbonated. The order of classification of these developing substances from the increasing quantities of caustic alkali required to produce the same effect are quite different depending upon whether caustic or carbonated alkalies are used; however, metoquinone requires the least alkali, and glycine the most. These developers are given in the order of alkali required, beginning with the developing substance requiring the least. Metoquinone, metol-hydrochinone, para-amido-phenol, para-phenylene-diamine, hydramine, pyrogallol, hydrochinone, pyrocatechin, metol, eikonogen, edinol, adurol and glycine. The different results show that the alkalies or their equivalents have a much more complicated reaction than is usually attributed to them. It can scarcely be admitted that a substance whose object is to saturate the small amount of HBr set free by the developer can be replaced by molecular quantities of different neutralizing agents. In the same way it is not probable that developers produce the same reduction also with variable quantities of alkalies or their equivalents. these differences even obtain with the isomers hydroquinone and pyrocatechin, which are not well explained by recent theories. By Lumiére Bros. and A. Seyewetz.—*Bulletin de la société francaise de photographie.* No. 1, Jan., '06.

# NOTES, NEWS AND EXTRACTS

**The Twelfth Annual Convention** of the Indiana Association of Photographers on July 13th, is over, and it is with special pride that the members can boast of the best meeting since the inception of the organization.

The display of photographs was larger and better, the attendance showed a decided increase, and the instructive feature under the management of Mr. W. S. Lively, president of the Southern School of Photography, gave splendid satisfaction, showing conclusively that Mr. Lively is a man of system and management.

So good was the feeling that the tide of enthusiasm began to move for the next Convention to the extent that the ladies formed an organization with Mrs. A. K. Clark of Ft. Wayne, President; Mrs. W. E. Vilmer, Crown Point, Vice-President; Mrs. F. D. Sullivan, Kendalville, Treasurer; and Mrs. W. F. Schermerhorn, Auburn, Secretary, for the purpose of looking after the social feature. Winona Lake being again chosen for the next place of meeting.

The following exhibitors were successful:

### GRAND PORTRAIT CLASS.

C. C. Pike, Indianapolis, 1st Prize, $50.00 in gold.

Geo. Holloway, Terre Haute, 2d Prize, $25.00 in gold.

### BOEHN TROPHY.

O. L. Harrington, Logansport, Ind.

### NON-STATE CLASS.

1st Prize Gold Medal, W. F. Oliver, Baldinville, Mass.

2d Prize Silver Medal, W. F. Schreiber, Dallas, Texas.

3d Prize Bronze Medal, Towles Studio, Washington, D. C.

### RATING CLASS, PRIZE GOLD BUTTON.

Lammer Bros., Marion; Frank Cady, Booneville; E. K. Shally, Berne; J. O. Cammack, Greencastle; H. E. Koch, Laporte; C. C. Pike, Indianapolis; Otto White, North Vernon; W. F. Staples, South Bend; E. L. Tobias, Huntington; S. A. Hachet, Fairmount; H. P. Dexheimer, Marion; Carpenter Studio, Wabash; I. W. Dicken, Fostoria, O.

The officers for the ensuing year are:

President—W. E. Vilmer, Crown Point.

First Vice-President—Chas. Neiswanger, Muncie.

Second Vice-President—H. E. Koch, Laporte.

Secretary—J. Frank Cady, Booneville.

Treasurer—J. O. Cammack, Greencastle.

---

**Direct Enlargements on gum.** It hardly seems possible to suppose that direct enlargements could be made on gum bichromate paper, yet it is said that this has been done by Dr. Hiecke, in Vienna. The following particulars of his method are given in the *Bromide Monthly*.

The enlargement was 2.8 times linear, and was made with a lens of 7in. focus working at f-5, the illuminant being an arc lamp of 12 ampéres. The novelty consists of placing on each side of the paper an ordinary 35 c.p., 100 volt incandescent electric light and keeping both these alight at a distance of about 15in. during the whole of the exposure.

The theory involved is said to be somewhat obscure, but the result seems to be a reduction of exposure from twenty to about five minutes. This, if applicable to ordinary carbon work, is an extremely important advance, which may lead not only to a saving of time, but also of material, doing away with the necessity of using enlarged negatives to obtain enlargements on carbon tissue.

To us, with nothing further than this paragraph to go upon, it looks like a revivification of the old idea of the preliminary exposure. Long years ago, when wet plates were the fastest material known, it was argued that, since a certain exposure was necessary before getting any appreciable developable image at all, exposures could be reduced by giving the plate a preliminary exposure to light to get over this stage before starting the time or camera exposure. We believe the plan was hawked about, and sold as a valuable secret, but few people were able to discover that it had any value at all as a practical process, and even those who bought it soon abandoned it.

**The C. P. Goerz Silver-cup Competition.** The C. P. Goerz Optical Works of New York take pleasure in stating that they have offered to the professional photographers of the United States and Canada a silver trophy in the form of a cup, of a value of $600, on the following conditions :

*First:* The silver cup will be offered as a prize to the successful competitor who shall have the award twice in succession or three times in all.

*Second:* Each successful competitor, except the final owner of the cup, will be presented with a prize of *One Hundred Dollars,* payable in gold or goods of our manufacture, at his option.

*Third:* The competition is open to all *bona-fide* professional portrait-photographers of the United States and Canada.

*Fourth:* *Portraits* only are accepted in this competition. Subject, size, kind, and number of prints are entirely at the discretion of the competitor.

*Fifth:* Every photographer desiring to compete is invited to send in his name to the C. P. Goerz Optical Works, and will receive in return a number with which he is to mark his picture or pictures. Should any competitor send in more than one picture, then each one must be numbered, and marked with the letters *a, b, c,* etc., in addition to the number.

*Sixth:* The pictures sent in for competition will be exhibited at the National Conventions of the P. A. of A. by the C. P. Goerz Optical Works, who, for that purpose, bind themselves to rent adequate space in the coming Conventions.

*Seventh:* All competing pictures are to be mounted and suitably framed.

*Eighth:* The prize-winning picture will become the property of the C. P. Goerz Optical Works. Copyright, if any, remains vested in the competitor.

*Ninth:* No picture having won a prize in this competition can be entered a second time.

*Tenth:* All successive awards will be made during the Exposition of the National Conventions of P. A. of A. All competing pictures, marked in accordance with rule five, are to be sent prepaid to C. P. Goerz, care National Convention, or before opening of same, to C. P. Goerz Optical Works, 52 Union Square, New York.

*Eleventh:* The C. P. Goerz Optical Works will name a jury of well-known members of P. A. of A. to pass on the merit of the pictures sent in, and to make the award. The names of the jurors will be announced a few weeks prior to the meeting of the Convention.

*Twelfth:* The jurors will award the prize to the picture considered by a majority of them to possess the highest artistic value, combined with the most perfect technique.

*Thirteenth:* The jury, on having made its award, will inform the donor of the number of the winning picture. The donor will thereupon compare the number with his list of competitors, and attach to the successful picture the name of the winner, and the mention of its award.

The number-list, being a confidental document, shall not pass out of the hands of the donor or his representative. The names of unsuccessful competitors will not be published without their special consent.

*Fourteenth:* The decision of the jury, or of a majority of its members, is final and binding for all parties concerned.

*Fifteenth:* The cup will be exhibited at the yearly National Conventions of the P. A. of A., and arrangements will be made to exhibit it also in the principal cities of the United States and Canada, for which purpose the kind cooperation of dealers is earnestly requested.

*Sixteenth:* The cup will be engraved at the expense of the donor with the name of the successful competitor and the year of his competition, immediately after the award has been made. The winner will then be entrusted with the custody of the cup for the ensuing year. He will be held responsible for its safe-keeping, and shall return it to the donor for the next competition one week before the opening of the following National Convention, unless it becomes his full property in accordance with the terms of this competition.

For further information and particulars, address the

C. P. GOERZ OPTICAL WORKS.

---

**"Stops" in portraiture.**--The beginner in portraiture often asks the question: "What is the best stop to use?" The choice, of course, depends upon the effect wanted, and the possibilities of the case. The smaller the stop, the greater the depth of focal field, and the longer the exposure. We may, in certain cases, wish to have great depth of focus, but the conditions of light may forbid our attempting the use of a very small stop. Speaking generally, we should advise the beginner to use the largest stop that he can bring his mind to accept, without producing what is to him a disagreeable degree of diffusion, or softness, or fuzziness on the ground-glass. If working in a room or studio, F.8 will probably be found the most convenient and satisfactory. For our outdoor work, where the background is some distance beyond the sitter, and F.8 converts this background into circles of confusion, then F.11 will usually be a satisfactory compromise. Going back to first principles, we must remember that in a portrait the head is the chief thing in our picture; therefore, the background must not attract attention to itself, and so away from the head, either by being very much out of focus, or being as sharply defined as the head.

Not only does a large stop give us a quicker exposure, but at the same time it seems to give a certain roundness to the modelling, which is highly desirable. But, as above said, a very large stop, *i.e.*, larger than F.6, usually tends to give unpleasantly marked differences of definition. The essence of the matter is that we must try to avoid very large or very small stops.—*The Practical Photographer.*

---

**A plate covering.**—How often do we find, after the dark room door has been bolted, and the plates slipped into the developer, that some very necessary, but perhaps apparently trifling article has been left outside? Two methods usually present themselves: either to open the door and risk spoiling the plates, or to do without the article. There is another way: have a large box at hand, into which the dishes may be slipped, the lid closed, and the door opened without risk. By way of precaution, the holes and corners of the box might be filled up with putty, and the inside covered with a coat of dead black. All fear of fogging may be set aside if a piece of cloth, about an inch wide, be nailed round the edge of the lid, so that it hangs down the sides of the box.

---

**A toning tip.**—It is a very noticeable fact that the first few prints that are placed in a fresh toning bath tone very rapidly, in fact, too rapidly at times. Those that are placed in later on tone very slowly. To overcome this difficulty, we are taught to place as many prints as possible in the bath at the same time. But this will necessitate constant motion of the prints, or uneven toning can but be the result. It is a good plan to use two dishes, each containing a fair quantity of the solution. The prints are all placed in one dish. Then, one by one, they are transferred to the second. When all have been placed in this latter dish, they are put back in the former one. This is repeated until toning is completed. In this way each print gets a fair share of attention.

---

We learn with deep regret of the sudden death on June 27th, of Henry P. Weidig, at St. John, N. B., where on the advice of his physician he had gone for rest from overwork.

Mr. Weidig was a doctor of chemistry, and head of the chemical department of Charles Cooper & Co., Newark, N. J., and a member of the firm.

Born in Giesen, Germany, Dr. Weidig studied in the university there and also at Heidelberg. He made a specialty of chemistry. He came to this country in the early '80's, and in 1888 settled in this city, taking a position with the Cooper concern. Eventually he became head chemist, which place he filled up to the time of his death.

In 1889 he married Miss Lena Kleinhans, a daughter of Jacob Kleinhans, who is now senior partner in the Cooper firm. Shortly after his marriage, Dr. Weidig was made a member of the chemical firm. Besides his widow he is survived by a son Jacob, fifteen years old, and a daughter Hedwig, fourteen years old.

**A hint for over-exposed slides.** — Many people will find that some of their slides are over-exposed. This is seen by the image coming up and at once rapidly darkening. If the slide was now fixed it would be flat and of bad colour. Instead, however, of removing the slide from the developer and fixing, continue developing it till it is very dense and very much over-developed. Then after fixing, the slide must be placed wet with hypo into a bath of ferricyanide of potassium. To prepare this bath add a few crystals of the above salt to a dish of water—in fact, enough to make the solution a canary yellow. The slide in this bath rapidly reduces, and the operation must be continued till the density is considerably thinner than a normal slide should be. Wash thoroughly to get rid of hypo, and bleach the slide thoroughly in the following—in fact, it will be impossible to over-bleach it:

| | |
|---|---|
| Mercuric chloride | 50 grs. |
| Potass bromide | 50 grs. |
| Water | 5 ozs. |

After this wash well to get rid of the mercuric chloride and blacken with

| | |
|---|---|
| Ammonia 880 | 1 oz. |
| Water | 20 ozs. |

The slide will now be found to be crisp with perfect gradation and a very pleasing colour.

This method is particularly useful for getting good slides from very thin negatives, only care must be taken in the first place not to over-expose. For sea-scapes, if the exposure is made so as to get a black tone, and the slide is under-developed, and after fixing and washing well is only intensified, a most intense, beautiful purple black will be produced almost as fine as wet collodion.—*Photographic News.*

---

**Perspective.** What is it? The dictionary, probably with literal and philological exactness, tells us it is the *view through.*

Perspective is the art of delineating on a plane surface true resemblance of objects, as the objects appear to the eye, from any given distance or situation, real or imaginary. The photographer to a great extent has the advantage of the painter, as his perspective is ready made for him; it exists, and that wonderful mechanical eye, the lens, transmits it line for line and degree for degree, thus merely copying it from nature. But the photographer has the disadvantage in that his perspective is often distorted and false because his lens gives him a rendering which while being scientifically exact according to the laws of light and reflection is, when reduced upon the small scale of his plate and print, altogether a false perspective to the human eye. Thus the photographer, as well as the painter, has sometimes to make his own perspective.

If, however, he can always employ a lens scientifically tested, and purely proportionate to the plate he is using, the scale of reproductive surface taken, the perspective will not only be exact to rule, but also true to vision. The subject is too big to go into thoroughly here, from the physical standpoint; but it may be said that the inverse ratio rule that presents itself so fixedly in physical problems, and especially in optics, carries us here no less, artistically, to the same extreme of illusory effect as it does to scientifically irrefutable truth—when applied to secondary vision and the examination of reduced pictures copied from nature. We may say, however, that whereas many workers have been under the popular impression that the absolute focal length of a lens always determines its perspective, the fact is more frequently recognized now that perspective is dependent upon focal length relative to size of plate. Thus, with a short focus lens fair enough perspective can be got provided we only employ a small area in proportion.

The actual perspective of a photograph is determined by the position in which the lens is placed relative to the scene. That is primary. Then it is easy enough to understand that the larger the plate used with a certain lens (or the shorter the focus of the lens used with a given size of plate) the wider will be the angle included. Of course the perspective of the portion of a certain scene included on all plates will be the same; but the point is that the long-focus lens gives a small portion of the view on a large scale, and the short focus lens gives a large portion on a small scale. Yet in accounting for the gross discrepancies in the focussing of far and near objects on one plate, one must remember that in examining the resulting picture we are studying a reproduction *in plane,* and have no stereoscopic property; also every object is reduced to one scale of focus, whereas in nature the eye roams about and focusses for itself wherever it looks.—Frederick Graves in the *Amateur Photographer.*

# TRADE NOTES

**If you are interested** in tank development, try working up your developer with Schering's Pyro. You will not be disappointed.

---

**Is it photographic bargains you are after?** Then don't fail to write to the Broadway Camera Exchange, 810 Broadway, New York, for a copy of their latest bargain list. It will surprise you with the variety and quality of its offers.

---

**George Murphy, Inc.**, of 57 East 9th Street, New York City who are now the sole American agents for the celebrated Ross Lenses, will act as the sales agents for the *American Annual of Photography* for 1907. All inquiries for the book should therefore be addressed to them.

---

**The Eastman Kodak Company** are pursuing their usual vigorous summer campaign, following up their splendid catalogue by two additional catalogues, the Brownie Catalogue and a condensed catalogue to slip easily in the pocket—just the kind to be read going home on the car—the worst thing they are so exasperatingly convincing, that it you don't watch out, you'll be in at your dealers the next day buying another Kodak, a tank developer, or a Brownie for the youngster.

---

**The increasing use** of small hand cameras for serious work broadens the field for the makers of high grade anastigmat lenses. In this connection we call your attention to the special line of lenses marketed by the Voigtlænder & Son Optical Co. for each instrument. The Dynar No. 3 Special, 6½ inch focus F. 6 at $25.00, and the Collinear Series III No. 3 Special, F. 6. 8. 6½ inch focus at $30 00, are ideal lenses for the 3A Folding Pocket Kodak. The lenses are so mounted as to fit the regular Kodak shutter without loss of time, or expense in fitting. The fine definition of these lenses is well known, and the price is remarkable when quality is considered. Write for their catalogue to The Voigtlænder & Son Optical Co., 138 West 23rd Street, New York City.

**The compilers of camera catalogues** in Rochester must be having a competition judging from the remarkably fine lot we have received from there. The last one to hand is that of the Folmer & Schwing Company, the makers of the magnificent Graflex and Graphic cameras. Every photographer should possess a copy of this catalogue; the wonderful work of the Graflex camera will prove of absorbing interest no matter how many ordinary cameras you now have. "Nothing too quick for the Graflex" is exceedingly well backed up by the illustrations in the catalogue, and from our own knowledge we can heartily recommend the Graflex to every photographer as an honestly and splendidly constructed instrument. The entirely new type of focal plane shutter does away with the annoyances of some of the other types of these shutters, and is a marvel of mechanical simplicity and precision.

---

**One of the best catalogues** it has been our good fortune to see this season is that of George Murphy, Inc. A full line of lenses, cameras, and all the standard goods of merit are adequately represented in the book. It is published without bias and will be an admirable list to have at hand for either the amateur or professional. It almost seems superfluous to add the address of this well-known firm but incase you have forgotten it send a dime to 57 East 9th street, New York for a copy of the catalogue. It will be well worth your while.

---

**Through the courtesy** of Mr. Frank W. Medlar, Secretary of the Photographers Association of America, we are in a position to supply on application, membership blanks in the association, as well as exhibitors shipping labels for those who desire to exhibit at the 26th Annual Convention to be held at the Cataract International Hotel, Niagara Falls, N. Y., from August 7th to August 10th.

---

**"Gennert's"** is a name as well known as hypo among photographers, and is synonymous with a square deal and up-to-date methods. The house of Gennert has always been a leader in importing good things from abroad, as well as manufacturing a most extensive line of American products. If you are interested in anything photographic from a package of blue print paper to a complete studio outfit get at once a copy of their very comprehensive catalogue No. 57 just issued. There is not a dull page in it. Upwards of 200 pages well illustrated, brightly written, giving particulars of the latest and most useful photographic apparatus are bound together. The firm's specialties are naturally fully described together with full particulars of the developers made by Messrs J. Hauff & Co., for whom Messrs. Gennert are trade agents. The Koilos Shutter, Primus Titling Outfit and other sundries together with the Auto Tank introduced last season and which has proved so great a success serve to make the catalogue a useful reference book for all in doubt. Do not hestitate to write to Messrs. Gennert at any time you are desirous of purchasing a camera whether it be for hand or gallery use as their selection is one of the most complete it has ever been our pleasure to review. The address of their New York office is 24-26 E. 13th street, their western branch being located at 53-55 Lake Street, Chicago.

---

**Negatives Wanted**—The Bausch & Lomb Optical Company announce that they are desirous of securing views of famous places in the United States and Canada and will pay $3.00 each for negatives made with any of their Anastigmat lenses, that is with the Bausch 7 Lomb-Zeiss Unar, Tessar, Protar IIa IV, V, VII, VIIa, and the Bausch & Lomb Plastigmat.

The views may be of famous buildings, churches, statues, monuments, of well known objects in nature as the Grand Canon of Arizona, Yosemite Valley, anything that is renowned in history, poem or story. This would naturally exclude subjects which, interesting and picturesque in themselves, have only a local value, as a library or government building in some city or town.

Interior views also will be accepted, but there must be some interest other than purely local connected with the place.

The negatives are to be no larger than 5x7 and no smaller than 3¼x3¼. Prints may be submitted to the Bausch & Lomb Optical Company, Rochester, N. Y., at any time, the sooner, the better. They reserve the right to accept or reject any or all prints submitted, and in the event of the purchase of negatives to use them in any way they choose for purposes of general publicity.

Prints should be plainly marked upon the back with full data, including subject of picture, name of lens, size, stop, time of exposure. name and address of sender.

If senders of prints desire them returned it will be necessary to enclose stamps for that purpose.

---

**If you intend making a trip** into the woods this summer you of course will take a Kodak with you.

If you are just going for the regular good old out door time one of the folding pocket Kodaks will be about the proper thing.

Many of you, however, from your long association with nature have become interested in some special phase or feature of out door life, and for this reason desire to make absolutely exact photographic studies, showing minute detail and on as large a scale as possible.

For this sort of work the No. 4 Screen Focus Kodak will be found just the thing.

By means of an exceedingly simple device the film chamber may be swung up out of the way and a focusing screen placed in position, enabling the photographer to focus exactly on the screen, the same as with the regular plate camera. It requires but an instant to perform these operations and affords the photographer every advantage of the focusing screen combined with all the good features of daylight loading film.

When desired the film chamber may be entirely removed, and a plate attachment substituted making two good practical instruments in one.

The screen Focus Kodak is built for good hard usage and is sure to find favor with the tourist and camper.

* * *

# THE PHOTOGRAPHIC TIMES

An Illustrated Monthly Magazine Devoted to the Interests of Pictorial and Scientific Photography. Issued the first of each month

**SUBSCRIPTION RATES:**

FOR ONE YEAR, $1.00. FOR SIX MONTHS, 50 CENTS. SAMPLE COPY, 10 CENTS.

On Foreign Subscriptions, 50c. must be added to pay postage.
Remit by Express Money Order, Draft, P. O. Order, or Registered Letter.
Subscriptions to THE PHOTOGRAPHIC TIMES received by all dealers in photographic materials in this and foreign countries, also the American News Co., and all its branches.

**ADVERTISING RATES WILL BE SENT ON APPLICATION.**

Copy for advertisements must be received at office one week in advance of the day of publication. Advertisers receive a copy of the journal free to certify the correctness of the insertion.

All literary contributions, correspondence, "Queries," etc., should be addressed to THE EDITOR; all advertising matter to the Advertising Manager.

THE PHOTOGRAPHIC TIMES PUBLISHING ASSOCIATION,
39 Union Square, New York.

## *Business Opportunities.*

**PHOTOS FROM LIFE**
Model Studies, Stereos, Beauties, etc., 100 small photos and two large ones, $1 note.
**S. RECKNAGEL, Nachf. MUNICH (Germany).**

LIVING MODEL—Nude Photos, full length, 12x9 in. Sample 20c, value 50c. Excelsior Co., Carlisle, Pa.

EXCHANGE.—4x5 triple extension "Korona" 1901 pattern, for extension pocket plate camera or 5 in. anastigmat. Charles V. Weiler, Flemington, N. J.

FOR RENT—A new and modern photograph gallery in a new building in New Kensington, Pa., a hustling, growing city in center of 10,000 population. Practically no competition. An elegant opportunity to build up a thriving business. For particulars address H. J. Logan, New Kensington, Pa.

HAVE YOUR LOCAL VIEWS MADE INTO
**POST CARDS**
FINEST AMERICAN MADE
FROM 250 UP OF A SUBJECT
**The Albertype Co., Brooklyn, N. Y.**

## *For Sale.*

PHOTOGRAPHIC MAGAZINE FOR SALE.—Photo Era, Vol. I to XVI inclusive; Camera Notes Vol. II to V; Wilson's Photo Magazine 1890 to 1903; Photo Times Bulletin 1886 to 1904; Anthony's Bulletin 1891 to 1901; International Annual Vol. I to XIV; etc. Complete volumes; perfect condition; cheap. George R. Seiffert, Lock Box 41, Phila., Pa.

FOR SALE.—At Denver, Colo. Oldest and best studio, finely furnished, best equipped in the city. Fine business. Reasons for selling death, and sickness. If sold at once goes at a sacrifice. Mrs. H. V. Rothberger, 827 Sixteenth Street, Denver, Colo.

FOR SALE.—Fine large studio on Public Square in Chambersburg, Pa., 11,000 population, 10 miles rich surrounding country from which to draw. Death of owner cause of sale. Good trade, elegant rooms, good location. Price $500. Address, Samuel F. Huber, Chambersburg, Pa.

ELEGANT GROUND FLOOR STUDIO FOR SALE—My splendidly located ground floor studio, situated in the very choicest part of Cleveland's residence district, for sale. All conveniences, natural and artificial gas, electric light, steam heat. Chance of life-time for good workman. If interested send for photos of studio and full particulars. J. Erickson, 721 Hough Ave., Cleveland, Ohio.

## *Employment Wanted.*

POSITION WANTED.—By a first-class all-round photographer. Sober and progressive. Operating and dark room work a specialty. Address Box 302, Effingham, Ill.

## *Wanted.*

WANTED—Carbon printer, send samples, references, state salary. F. Gutekunst, 712 Arch street, Philadelphia, Pa.

WANTED.—To buy or rent photograph gallery, furnished or unfurnished, in large city, or would buy half interest. New York, Brooklyn Cincinnati or Chicago preferred. Address, stating price and full particulars of what you have Box 406, Pittsburg, Pa.

**Eastman Kodak Company**
ROCHESTER, N. Y., *The Kodak City.*

## PHOTO APPENDICITIS.

This is not a new disease, it used to be called—but that's neither here nor there. What concerns us most is a full description of the disease and the remedy.

This is set forth in the following extract from an article by Milton B. Punnett in the *Photographic Times* for July:

"A Vermiform Appendix, which afflicts the art of photography at present, is the idea that to obtain good results, each individual negative should have special treatment in development and that there are no general laws governing development, which, if thoroughly understood and applied will admit of developing en masse.

This is an appendix, which, as any amateur or professional can prove to his or her own satisfaction as the writer has to his, is filled with seeds of ignorance and stumbling stones of error. As far as film is concerned, to prove this statement is very simple. Expose two rolls of film as nearly alike as possible. Under, over and correct exposures can be given, but for every exposure on one film there should be a corresponding similar exposure on the same subject under the same conditions made on the other. Develop one in a Kodak developing tank or machine, following directions carefully. Develop the exposures of the other roll separately; starting development with a normal developer and giving to the individual exposures such treatment as the appearance of the image would in your judgment indicate. For instance, for over exposure use plenty of bromide or more of the developing agent or less of the accelerators, and for under exposures more water or any combination you may think advisable. In other words, perform your own operation for photographic appendicitis and I will guarantee a cure as far as the above cause is concerned.

Mentioning bromide recalls to my mind how I chuckled to myself at the absurdity of Watkin's statement that it was useless to add Potassium Bromide to the developer after the image had appeared. Hadn't I developed many a plate and when I saw that it was over-exposed added bromide and obtained a good negative when otherwise it would have been an absolute failure. I knew I was right, yet in order to convince others it was necessary to make comparative experiments, and so I did.; result—lost—one photographic appendix.

The above experiments were made with plates. Lately I repeated them with films, developing one set in tank and one set by the Rip Van Winkle method of using bromide, examining image on surface and back, looking through it, etc., and now not even the scar of the previous operation is left. And it is as it should be, for the Kodak Tank and the material and instructions which accompany it are the condensed results of thousands of experiments, each experiment seeking to eliminate the false and retain the true. Mr. Child Bayley, editor of "*Photography*" and one of England's leading men in the science of photography, gets at the meat of the matter when he states "the system is at once scientifically sound and practically perfect," and "we are not interested in the Kodak products any more than in any of the other excellent manufactures which go to make the amateur photographer's path an easy and a pleasant one. But we are interested in everything which will help our readers to get *better* results, or a *higher* percentage of good results, than they have been doing. Every spool of film we expose (except that which has been exposed for the express purpose of trying other de-

# Eastman Kodak Company

**ROCHESTER, N. Y.,** ***The Kodak City.***

velopers or methods) is developed in a Kodak Apparatus, and up to the present we have not lost a negative any defect in which we could fairly attribute either to the machine or the system." I may appear unduly enthusiastic on this subject, but as a lover of photography and one who has developed hundreds, yes, thousands of plates under the old system, I may be excused the enthusiasm of a convert who finds that he has an annoying appendix which he can so easily shed."

"While the mood is on me let me make a statement and on it base a prophecy : By using the tank developing system for films more and better negatives can be obtained than by individual treatment. Within a few years the stand development system will be almost universally used on plates and films.

"Try all things—hold fast to those that are good."

The Eastman

## Special Squeegee

Fits the Hand.

| | | |
|---|---|---|
| 6 inch, | . . | $ .30 |
| 8 inch, | . . | .35 |

*All Dealers.*

**MOUNT PRINTS**

**THE**

**MODERN WAY**

## Kodak Dry Mounting Tissue

**Sticks only when and where you want it.**

*All Sizes.*

*All Dealers.*

**Eastman Kodak Company**
ROCHESTER, N. Y., *The Kodak City.*

The only film classed with the fastest plates in the Photo Beacon Exposure Tables is

**Eastman**

**NC**
**NON-CURLING**

*"The film with 21 years of experience behind it."*

# VELOX

## The Spare Moment Paper.

**Prints at night when it's cool.**
**There is a Velox for every negative.**

---

**Nepera Division,**
**EASTMAN KODAK CO.**
**ROCHESTER, N. Y.**

*All Dealers.* *The Kodak City.*

# By Right of Quality

# SEED

# Leads the World.

The dry plate that is invariably used where quality is the only consideration.

ST. LOUIS, MO.

COPYRIGHT
TRADE MARK
SECURED

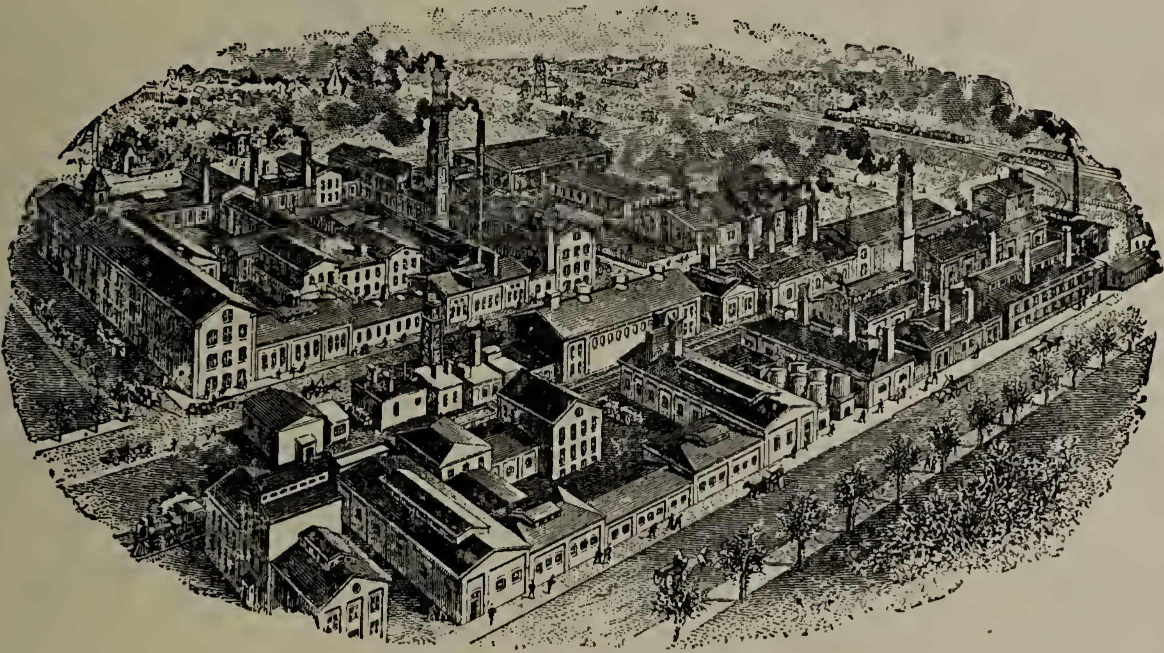
M. A. SEED
DRY PLATE
COMPANY.
ARROW BRAND

M. A. SEED DRY PLATE CO.
ST. LOUIS. MO.

CHAS. COOPER & CO.

...ESTABLISHED 1857...

*Manufacturing Chemists*
194 WORTH ST *and Importers* NEW YORK



WORKS AT NEWARK, NEW JERSEY

CHEMICALLY PURE PHOTO CHEMICALS

*Nitrate Silver, Chemically Pure Chloride Gold, Sulphite Soda Crystals and Granular. Litmus Paper, Acid Sulphite Soda Solution, Commercial and Chemically Pure Acids, Ethers, Aqua Ammonia, Soluble Cotton for Collodion Paper........*

WE MANUFACTURE A FULL LINE OF CHEMICALS, MEDICINAL, AND FOR THE ARTS AND TECHNICAL PURPOSES

BROMO OXYGEN A most efficient disinfectant and deodorizer. Can be diluted with 32 parts of water . . . . .

MONTHLY PRICE LIST ISSUED. REFINERS OF PHOTO SILVER AND GOLD WASTE

*Just tell them that you saw it in the "Photographic Times."*

YOU CAN SAVE MONEY,

TIME, PATIENCE AND MATERIAL, BY USING

Hammer Plates

HAMMER DRY PLATE CO

—TRADE MARK—

REG. U. S PAT. OFF.

Why? Because they are made on honor!
Every brand is manufactured with special reference to its particular requirements.

Every plate is carefully inspected before it leaves the factory. Every emulsion is rigidly tested and ∴ ∴ ∴ ∴ ∴

Every Plate is Uniformly Good.

If you use Hammer Plates you know this is true. If you don't use them now it will pay you to begin at once.

Send your name and address on a postal card and we will mail you free a copy of Hammer's little book, full of valuable information, hints and formulas that will save you money whether professional or amateur ∴ ∴ ∴ ∴ ∴ ∴ ∴

HAMMER DRY PLATE CO.

SAINT LOUIS, MISSOURI

*Just tell them that you saw it in the "Photographic Times."*

# ANSCO

## DAYLIGHT LOADING FILM

## NON-CURLING
## NON-HALATION
## NON-ELECTRIC

The most important factor to consider for successful results and satisfactory pictures is the FILM you use for making the negatives.

ANSCO FILM has the unrivalled reputation for reliability and uniformity of quality which are the key notes to success.

They yield negatives of the very finest printing quality and their greater latitude in exposure and development insures results under the most trying conditions of light.

**ADAPTED FOR USE IN ALL FILM CAMERAS**

**EVERY ROLL GUARANTEED**

Insist on having ANSCO FILM and you have the right start.
One trial is sufficient to convince of their superior quality.

ABSOLUTELY
THE BEST
DEVELOPING
PAPER
MANUFACTURED

CYKO
PRINTS AT NIGHT

FINE IN
DETAIL
PURE IN
WHITES
RICH IN
BLACKS

The next step to consider is the paper for making prints.

There is never a question about getting good prints when CYKO is used.

It is the easiest developing paper to manipulate and produces prints of the very finest quality for detail, softness and permanency.

CYKO is coated on the very best foreign stock and the emulsions are of the very finest that chemical science can compound.

Write for a sample package and be convinced of the unequalled quality of this product. Free on request.

---

**THE ANTHONY & SCOVILL CO.**
**BINGHAMTON, N. Y.**

Perfect Balance

WITH

ORTHONON

Proper equalization of
highlight and shadow.
Correct color values.

STANDARD DRY PLATE DIVISION,
EASTMAN KODAK CO.
ROCHESTER, N. Y.

Voigtlaender Special Lenses
FOR KODAKS

DYNAR No.
3 SPECIAL
*6½ in. focus F. 6*
FOR 3A F. P. K.
**$25.00**

COLLINEAR
SERIES III
No. 3 SPECIAL
*6½ in. focus F. 6,8*
FOR 3A F. P. K.
**$30.00**

No new shutter required—Lenses fit the No. 3A Kodak shutter
Double Speed ═══ Finer Definition

***The Voigtlaender & Son Optical Co.***
138 West Twenty-Third Street :: NEW YORK

THE BOOK OF PHOTOGRAPHY

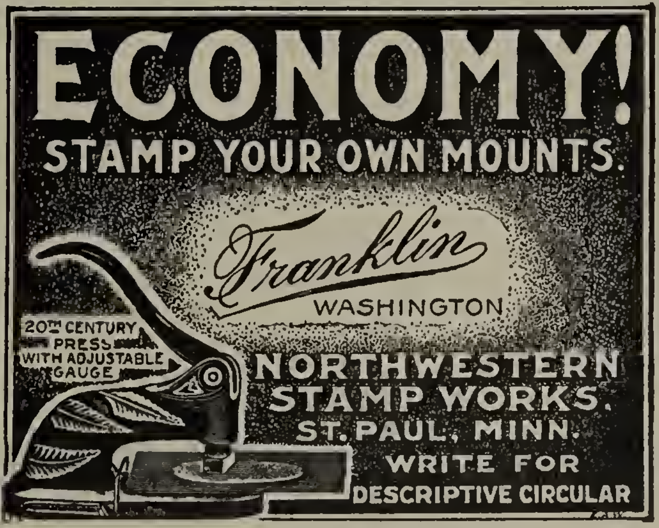
Practical, Theoretic and Applied
*Edited by* PAUL N. HASLUCK

With numerous Illustrations and Working Drawings
Nearly 800 pages, size 6x9½, cloth, $3.00, prepaid

ENTIRELY NEW AND UP-TO-DATE

¶ The Book of Photography contains in one work all that those interested in Photography require to know to enable them to attain success. It shows them how to start in the right way, how to follow up first efforts, and how to attain proficiency.
¶ The chapters have been written by a number of well qualified experts who have specialized in the various branches of the art.
¶ The illustrations show clearly how the operations of Developing, Toning and Fixing, Retouching, etc., etc., are actually done, and a large number of working drawings affording invaluable assistance to the amateur and professional worker are included.
¶ If after examination you are not satisfied return the book and we will refund your money.

The Photographic Times
Publishing Association
39 Union Square New York City



ECONOMY!
STAMP YOUR OWN MOUNTS.
Franklin
WASHINGTON
20TH CENTURY PRESS WITH ADJUSTABLE GAUGE
NORTHWESTERN STAMP WORKS.
ST. PAUL, MINN.
WRITE FOR DESCRIPTIVE CIRCULAR

Are you at all particular
as to the quality of work you have done
in the line of developing and printing
I am giving special attention to the work of those who desire only the best grade of finishing. I use the finest materials that can be obtained and guarantee the work to surpass that of any house in the same line. Write to me for my prices. I am the inventor and manufacturer of
**PERFECTO**
the best developer for films, plates, or Velox paper. Non-poisonous, non-staining and keeps indefinitely. Ask about it. Also sole agent for Wellington & Ward's English papers and films. Sample of papers for twenty-five cents cash. .·. .·. .·. .·.

MILES GREENWOOD
84 Cottage Street MELROSE, MASS.

Look for the Little White Ticket. **G. GENNERT,** New York, Chicago

Use the Papers
Made by

**The Rotograph Company**

FACTORY:
771-773 East 164th Street, New York.

684 BROADWAY
NEW YORK CITY

# NEVER PASS THEM — BUY!

TRIER
&
BERGFIELD'S
MOUNTS

FOR
AMATEURS
and
PROFESSIONALS

PIONEER, Jr.
FOR SAMPLES WRITE TO (DEPARTMENT B SAMPLES)

---

# DEVELOPMENT

Around the undeveloped negative hangs a cloud of uncertainty. Success or failure being revealed only on development.

Safeguard this all important operation by using

**AGFA METOL**

or

**AGFA RODINAL**

and you can be assured that you get all that is possible out of your plate.

If by chance some error in your judgment causes an under or over exposure

**AGFA INTENSIFIER**

or

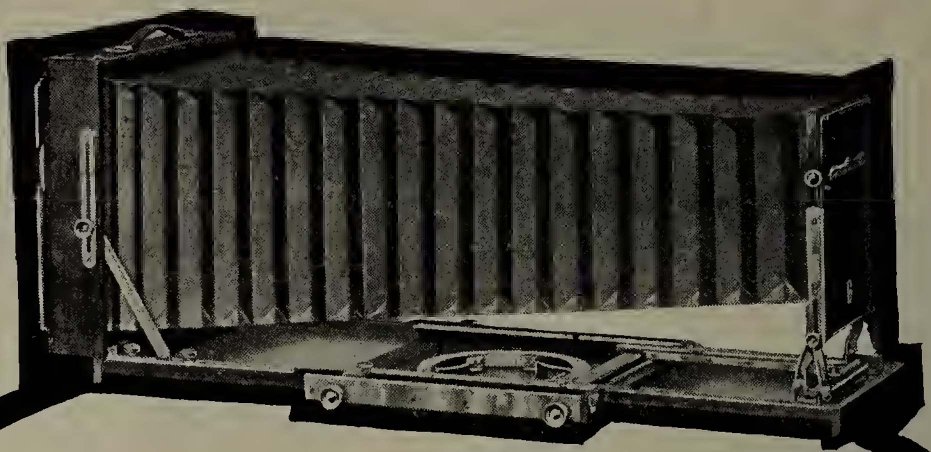
**AGFA REDUCER**

will correct it.

To secure the best results on gaslight paper use

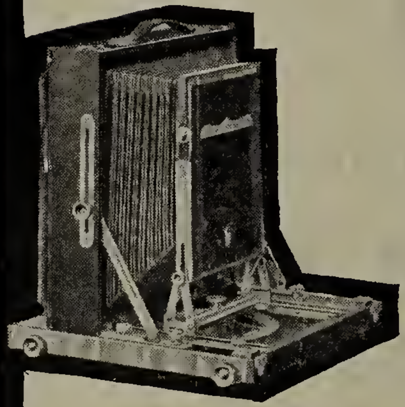
**AGFA Amidol**

BERLIN ANILINE WORKS
213-215 Water Street NEW YORK CITY



**Originality in View Camera Construction.**

# Premo View

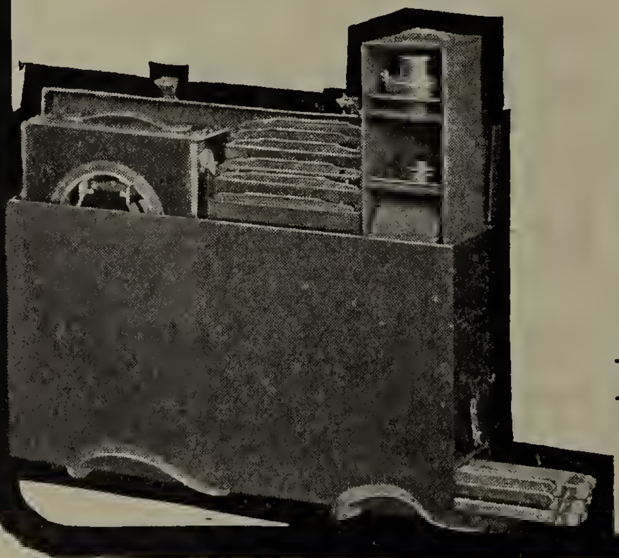


¶ A new view camera which will meet the most exacting requirement, in the most trying commercial or scientific work.

¶ Provided with **extra long bellows—extra large lens board**—and is as easy to operate as a hand camera.

¶ Premo View is especially adapted for wide angle lens use, but is so constructed as to always center above the tripod, no matter what the position of the bellows.

¶ The case is of original design, is waterproof and contains, in compact form, everything the photographer will need in his field work.



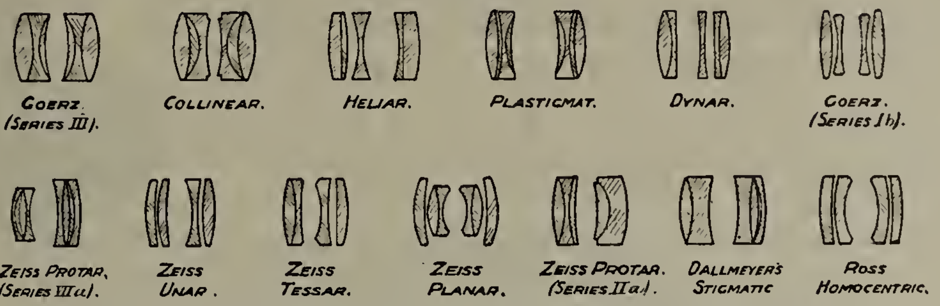
| | | |
|---|---|---|
| **Sizes:** | 6½ x 8½, | 8 x 10 |
| **Prices:** | $52.00 | $58.00 |

Descriptive catalogue
mailed on request.

**Rochester Optical Co.**
**Rochester, N. Y.**

WHY COOKE LENSES EXCEL

ONLY THREE GLASSES.
No Cement.



COOKE ANASTIGMATS have only three glasses, uncemented. Their action is therefore quicker than that of six glasses with four layers of cement. If you doubt this, look through a Cooke lens at a sheet of white paper, and the paper will be not yellow but white. The simple construction offers no drawbacks. On the contrary, it permits the removal of those troublesome errors which in other lenses must be tolerated. Most lenses vary appreciably, but Cooke anastigmats are of UNIFORM EXCELLENCE. Their sale is growing by leaps and bounds, and it is due to these facts. Ask for a catalogue.

TAYLOR, TAYLOR & HOBSON, LTD

ST. JAMES BUILDING NEW YORK CITY

Wollensak

Series "A" f-5. Portrait Lens

Price $15.00 to $50.00

This is a moderate priced lens thoroughly satisfactory for portrait work yet it can be used for groups and other purposes making brilliant, well defined negatives with the full aperture.

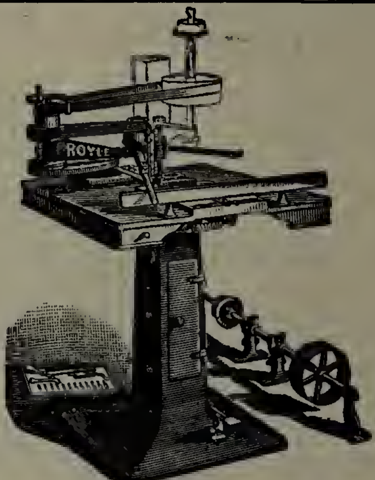
The Series A is made in five sizes from 3¼ x 4¼ to 8 x 10, the smaller sizes being designed especially for use by critical amateurs and the larger ones for the professional photographer. This lens like everything else we manufacture is covered by our broad guarantee and is sold by Photographic Dealers everywhere.

Send for our handsome illustrated booklet telling of this and other products of our factory.

**Wollensak Optical Company,**
**283 Central Avenue, Rochester, N. Y.**

## The Photo-Engravers' Machinery

built by John Royle & Sons, Paterson, N. J., is of value because it does its work rapidly and well; is simple and easy to handle, and does not get out of order. We have large and small machines for large and small plants.



DIFFERENT
KNOWLEDGE
METHOD
SYSTEM
QUALITY
PHOTOGRAPHY

**Want**

A MONEY MAKING OCCUPATION . . .
TO MAKE MORE MONEY THAN YOU ARE
TO PHOTOGRAPH ONLY FOR PLEASURE ?

**YOU CAN** DO EITHER WITH CERTAIN SUCCESS! MAKE PICTURES THAT WILL LIVE!

Start Right, Cut Out Wasteful Experiment

IF For business or pleasure, don't *GUESS*, *KNOW!* For a position, we'll make you worth a Good Salary.

Lighting, Developing and other small courses available. Personally taught, or by perfected correspondence system.

*DIPLOMAS IF PROFICIENT*

Write for Free Illustrated Prospectus

**Milton Waide Metropolitan School of Photography** (incorporated)
32 Union Square, New York

# PATENTS

C. A. DIETERICH
256 BROADWAY, NEW YORK
COUNSELOR AT LAW

U. S. AND FOREIGN PATENTS PROCURED
TRADE MARKS REGISTERED

**Never Soils or Spoils**

## Day's White Photo Paste

6 lb pail, $ .00
4 ounce jar, 10c.

is scientifically prepared to meet all the requirements of photo pasting, and is put in various packages for convenience in using. Day's White Photo Paste is used exclusively by many of the leading artists, and when you try it thoroughly you will always want it. We will gladly send any artist

**A SAMPLE FREE**

just to prove the quality of our Photo Paste. Write a postal requesting sample, and making any further inquiry you may desire.

**DIAMOND PASTE COMPANY**, 84 Hamilton St., Albany, N. Y.
125-127 Front Street, New York City. Tel. 2370 John

## Illustrated Artistic Encyclopoedia

Books and publications of high artistic value, fully illustrated by Academic studies of the nude. All photographs obtained from Nature.

Splendid collection of studies of nude womanhood—original photographs obtained with living models.

*Illustrated Special Catalogue sent on demand.*

C. KLARY, Editor of "Le Photogramme,"
17 RUE de MAUBEUGE, PARIS.

## GREATEST PHOTOGRAPHIC BARGAIN LIST

ever published. 10% to 60% saved. Make money to-day by sending stamp for LIST to the **One Genuine Photo Bargain House.**

**Broadway Camera Exchange**
810 Broadway, New York.

# Bausch & Lomb-Zeiss Portrait Unar

Photographed by Pach N. Y., with Portrait Unar

Portrait Unar has all the qualities of the finest portrait lens and in addition, by means of its adjustable systems, the covering power and definition of the anastigmat making it doubly useful for groups and figures.

Portrait Unar is a new and profitable tool for the studio photographer. Even the conservatives are beginning to "sit up and take notice" of the work of this new profit maker.

CATALOG FREE

## Bausch & Lomb Optical Co.

ROCHESTER, N. Y.

NEW YORK BOSTON WASHINGTON CHICAGO SAN FRANCISCO

30c per Doz.--$3 per Gr.

ARISTO GOLD
POST CARDS

Emulsion contains
necessary Silver & Gold
No Toning or Developing
chemicals necessary.

Process of manipulation: simplest known.
Full directions in each package.

MANUFACTURED BY
AMERICAN ARISTOTYPE CO.
JAMESTOWN, N.Y. U.S.A.

*Free Sample Furnished on Request*